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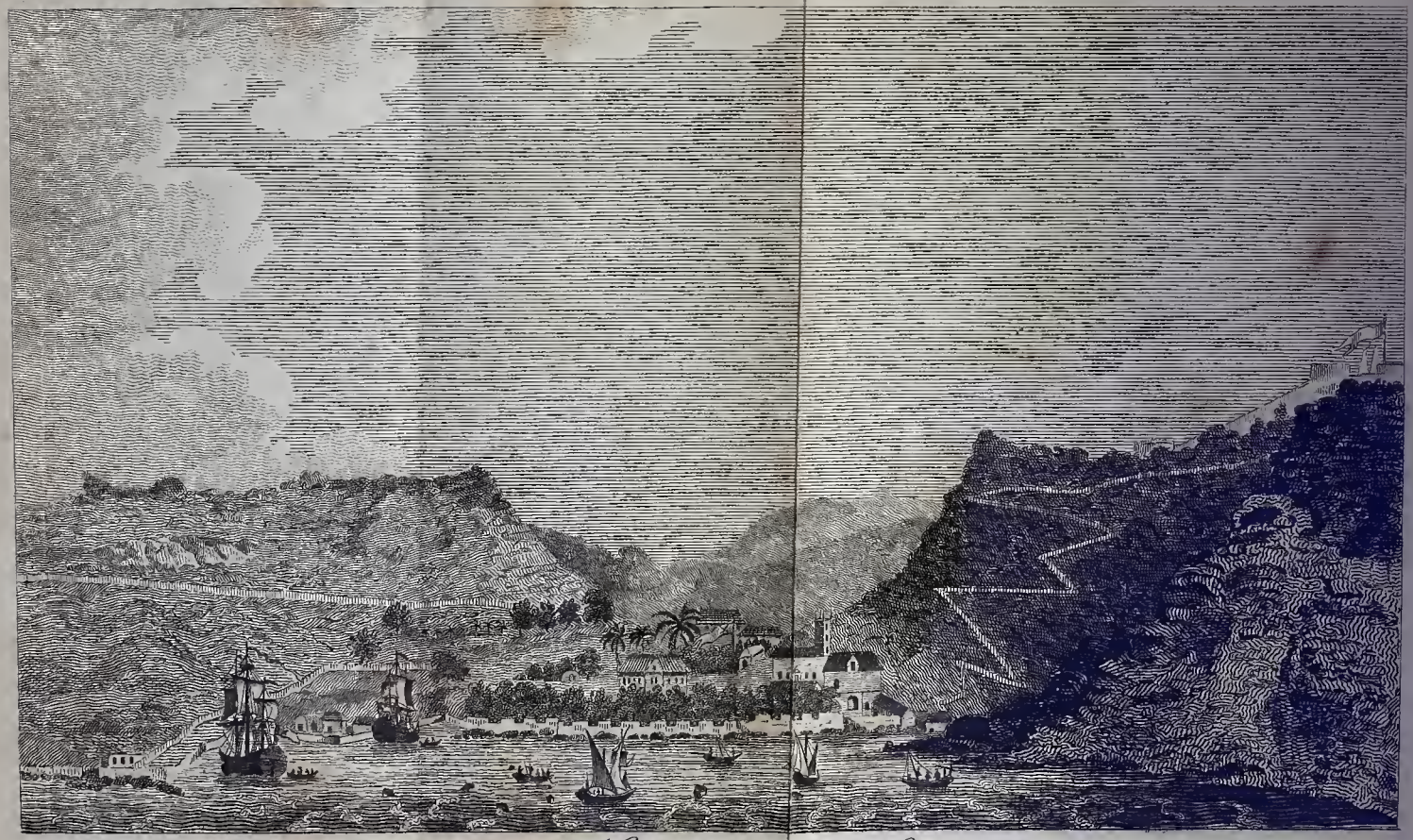

Town & Harbour of St. Helena.

Pub. June 1. 1805, by Richard Phillips, 6, New Bridge Street.

A

DESCRIPTION

OF THE

Island of St. Helena;

CONTAINING

OBSERVATIONS

ON ITS

SINGULAR STRUCTURE AND FORMATION;

AND

AN ACCOUNT OF ITS CLIMATE, NATURAL HISTORY, AND INHABITANTS.

LONDON.

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1805.

W. Thorne, Printer,
Bell Yard, Fleet Street.

TO THE HONOURABLE THE COURT OF DIRECTORS FOR THE AFFAIRS OF THE HONOURABLE UNITED COMPANY OF MERCHANTS OF ENGLAND, TRADING TO THE EAST-INDIES.

HONOURABLE SIRS,

THE island which is the subject of the following pages, has employed so much of your care and attention, and is in itself so curious and extraordinary, and so little known from description, that a particular account of its singular appearances, climate and productions, cannot, we may reasonably hope, be unfavourably received by your Honourable Court. In this hope it is dedicated to you by the author, who, as he has no claim or expectation of patronage, nor any wish

to obtrude himself personally on your notice, conceives that in this address, he may, without the imputation of flattery, be permitted to express the feelings of truth and respect. To the attention and liberality of your Honourable Court, the island which is here described, already owes many important benefits. To you, its inhabitants, who are separated from the rest of the world by a vast ocean, and confined to a naked and unproductive rock, are, in a great measure, indebted for their comforts and for their subsistence; and it deserves the grateful remembrance of the friends of humanity, that the blacks, who are employed here in cultivating the country, have been released by your orders, from a state of slavery. St. Helena is indeed so much indebted

to

to your care, and so necessarily dependent on your support, that you cannot but feel somewhat of a paternal concern, in whatever regards the welfare of this barren and rocky isle, which its original parent, Nature, that produced it in some extraordinary convulsion, seems to have abandoned to a state of hopeless destitution in the solitude of the ocean. It is gratifying to reflect, that the most helpless and dependent of all your possessions, has been so peculiarly distinguished by your care and humanity. What you have already done encourages the expectation, that from your farther attention and munificence, this island may yet receive the full measure of improvement of which it is capable. In what manner it may be rendered more valuable and

independent in itself, more commodious to fleets, and more comfortable to its inhabitants, it has been one of the author's principal objects to shew; and he shall think the time and labour employed on the following pages fully repaid, if he succeed in calling the attention of your Honourable Court to the important subject of improving this island.—To impart the gifts of Nature and the accommodations of life to regions that are desolate and barren, is to obtain a species of conquest and dominion of all others the most lasting and beneficial. The acquisitions of the sword are uncertain and fugitive: But the appropriation and culture of the wastes of Nature, the introduction of valuable trees and shrubs, and of those useful

useful plants and fruits of the earth which minister to the wants of man, are benefits that will endure through all the vicissitudes of power and conquest. Your vast empire in the East, comprehending the territories of so many ancient kingdoms, and the scenes of so many former conquerors; filled with a population of sixty millions, and overflowing with the inexhaustible riches of Nature; this mighty fabric, in itself so new and unparalleled in the annals of the world, may, like other empires acquired by the sword, and upheld by opinion, pass away as a shadow, and leave no vestige of your power and greatness. But an island recovered from that waste and desolation in which it was lost to every purpose of life, and replenished by

your care with the bounties of Nature, will prove a lasting and valuable acquisition to mankind, and bear on its improved and flourishing aspect, the best and only imperishable memorial of power and conquest.

That this island may receive at your hands all the advantages of a more extended culture, and that its inhabitants may long continue to enjoy the benefits of your mild and equitable government, is the earnest wish of,

Honourable Sirs,

Your most faithful and

Devoted humble Servant,

THE AUTHOR.

London, May 1, 1805.

PREFACE.

ISLANDS are generally situated near continents, or in the neighbourhood of each other; and discover, in the similarity of their structure, soil, and productions, the affinity and relations of a common origin. But besides these, there are some other islands, of a distinct and peculiar fabric, and probably of a more recent formation, either situated on the borders of other lands, or found quite unconnected and solitary, in the most remote and unfrequented spaces of the ocean. Perhaps, one of the most singular and extraordinary of this last description, is the island of ST. HELENA, whether we regard the peculiarity of its form, or the circumstances of its situation. A wild and solitary mass of a structure so strange and unusual, and so curiously raised up in the midst of the waves, has never been viewed by any person, without wonder and astonishment; and yet very little is known of it, and no adequate account of it has ever been given, though it is now three hundred years since a Portugueze navigator first discovered it,

on

on his return from India. It may therefore be expected, that an attempt to convey an accurate description of this extraordinary island, and of the peculiarities of its climate and productions, will be favourably received by a candid and discerning public.

Some readers, perhaps, may think the description here given of the rocks and strata, rather too minute; while others may consider this delineation as incomplete, without some chemical and mineralogical details. To the first class of readers, the writer has only to observe, that he found it impossible to convey a just and accurate description with less minuteness, or in fewer words than he has used; and if such readers are fatigued with the aspect of rocks, they may pass on to what follows, which, he hopes, will be found less uninteresting. The other class of readers, who are seldom numerous, he would gladly have gratified, if time and opportunity had allowed him to do so. But, besides that he was unprovided with the means for carrying on such investigations (even supposing him to have been otherwise qualified), he is afraid, as his time was only short, that in minute details

tails of this kind, he might have lost sight of those grander objects and general views, which were to him peculiarly delightful and interesting. Of what delighted and interested him so much, he has endeavoured to convey a faint impression to others; and he shall think his labour well bestowed, if he succeed in imparting to his readers a clear and just conception of those objects which excited in himself so much curiosity and attention.

Perhaps some persons, who shall in future visit St. Helena, may not be able at once to discover in its structure all that order and regularity which are here described. For, at first sight, and to those who only take a superficial view of some parts of it, there appears much confusion and irregularity. Yet the writer has no fear, that his descriptions will be found incorrect, by those who examine this island with care and at leisure; for such persons only are qualified to estimate the accuracy and fidelity of the account here given, which, whatever its defects may be, has not been executed, without close and patient attention to the subject.

In endeavouring to account for the appearances which are described, some conclusions have been adopted which may seem bold and hazardous, though they were not unwarily admitted, nor without mature reflection. The idea of torrents of melted and burning matter, forcibly propelled through the chasms of an island, and congealing into perpendicular cones and extended beds of rock, may shock the prejudices of our belief, as such an operation is not within that ordinary course of natural events, which has fallen under our notice: In like manner, it might appear to us amazing and incredible, that vast frozen or ignified masses should traverse our solar system, in directions contrary to the planetary movements, if experience had not taught us that there are such bodies as comets. If the deductions of reason, concerning what has been, or may be, beyond the narrow circle of our experience, are not to be admitted, it is to be feared, that no part of the constitution of the terraqueous globe can ever be explained; as every foot of the ground on which we tread, has undergone changes and revolutions,

tions, which we have never seen in the act of taking place, whatever reasonings and conjectures we may form about the manner in which they have been effected. When we consider the fabric and appearance of the island, which is here described, and the singular disposition of its rocky and volcanic parts, it seems impossible not to conclude, that subterranean operations, of a kind more extraordinary than any of which we have ever witnessed the actual and immediate agency, must, at some very remote era, have shaken and convulsed the centre of the Æthiopic: that this island must have been formed by some such unusual efforts of convulsed and labouring Nature; and that it can only be considered as a wreck left among the waves, by the fury and conflict of the most irresistible of her elements. Though the force and potency of those subterranean agents that produced it, have long since spent themselves and passed away, they have left on it, traces of its igneous origin, so deep and lasting, that we are in some measure enabled to mark the order and succession of the operations, by which this extraordinary

mass

mass has been raised from the bed of the waters.

The volcanic origin of basaltes has been questioned by some authors. Perhaps some light may be thrown on this subject, by considering the situation in which this stone is found at St. Helena, where it is placed in alternate beds with lava, cinders, and vitrified stones, and with layers of bright red volcanic earths and clays. Whatever there may be curious and peculiar in this, or different from what is found in other countries, the indelible vestiges of a fiery and subterranean origin, which the hand of Nature has so strongly impressed on the aspect of this island, are rendered more striking and remarkable, by the numerous horizontal beds of basaltes, and the huge vertical strata of broken and fissured rock which traverse the whole, from the base to the summit; and which themselves bear such evident marks of fire, that it is difficult to consider them as being of a distinct and separate origin from the volcanic matters with which they are so closely blended and united.

But whatever shall be determined, as to the

the probability of any conclusions drawn from the appearances of this spot, it is to be hoped, that most readers will be gratified with an account of a climate, so peculiarly circumstanced as that of St. Helena; lying in the sixteenth degree of south latitude, and in the seventh of west longitude, and near the centre of a vast ocean, where there are no other lands to influence or modify the course of its seasons. There are indeed, probably, very few islands in the world, so extraordinary in themselves, or so singularly situated as this; and its climate is not the least remarkable of its peculiarities. The writer is aware, that in order to have made this part of his subject more compleat and perfect, a longer opportunity of observation than that which he enjoyed, would have been necessary: Several things of importance have probably escaped his notice; or he may possibly have been misinformed in some instances where he was obliged to trust to the testimony of others. But when it shall be found, that there are here many omissions, or some few oversights, let it be remembered that these observations, which a lon-

ger residence among the scenes which are described, might have made more complete and worthy of public attention, are only such as could be gathered in a diligent search of five weeks; and, that though they may have been somewhat improved and methodized by reflection, they could not easily have been amplified from books; in which, where the subject of them is treated at all, it is only touched upon very slenderly. Yet several men of science, well qualified to illustrate this subject, have visited ST. HELENA; and from the opportunities which it affords for astronomical observation, some have resided here a considerable time. One of the highest hills still bears the name of the celebrated HALLEY, who fixed his telescope on this spot, for the purpose of observing the stars of the southern hemisphere: Other astronomers have resided here; and it would be a matter worthy of curiosity in men employed on scientific missions, whether their immediate object be astronomy, botany, or mineralogy, to give a little of their time and attention to the circumstances of this very peculiar climate, and to record appearances

as

as they present themselves. Of all that the writer had an opportunity of observing himself, and of whatever he could collect from others, he has carefully digested the result, which he has still further endeavoured to explain and illustrate, by a comparison with the climate of India. Nor is it in this part of his tract only, that the reader will find several references and allusions to the circumstances of that remote and interesting region. These incidental references, it is hoped, will not be deemed impertinent, or extraneous. If they are valuable in themselves, they will the more readily find with most readers that excuse which it would be unnecessary to offer, if what is natural were always proper. To a person coming immediately from the East Indies, and struck with the objects presented by this island, many things here will awaken recollections of the scenes he has just left; and these last will naturally intermix themselves with his views and conceptions of the appearances around him. If our notions of things were stripped of the adventitious aids and lights which they derive from comparison, how slender and

naked would be the fabric of human knowledge?

The reader, who shall give himself the trouble of inspecting the following pages, may, perhaps, discover some casual lapses in the style and expression; and it is not meant here to plead, either haste or negligence, in extenuation of any unheeded errors. Yet what has unavoidably happened, may surely be told without blame or affectation,—that this little Tract, which was written in retirement, is sent to the press under the disadvantage of not having been seen by any friend before it is printed. The writer, who is far from professing himself indifferent to the praise of clearness and simplicity, if he should happily attain it, will not affect to offer excuses for what has cost him trouble, and what probably no pains on his part could have made better than it is. For the descriptions themselves, and for the inferences drawn from them, as the former are as accurate as he has been able to make them, and the latter more probable than any thing else that has occurred to his reflection, the writer offers no apology.

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CHAP. I.

THE SITUATION AND GENERAL APPEARANCE OF THE ISLAND, WITH A DESCRIPTION OF ITS STRATA AND VOLCANIC PHÆNOMENA.

THE iſland of ST. HELENA is ſituated in that part of the ſouthern Atlantic, which has been otherwiſe denominated the Æthiopic Ocean, about a thouſand miles to the ſouthward of the æquinoctial line, and nearly at the ſame diſtance from the weſtern ſhore of Africa. Its remote appearance, when firſt diſcovered by thoſe who approach it, is that of a blue mountain, ragged and depreſſed at the extremities, and riſing very high towards the middle parts, which are leſs diſtinctly diſcerned through the exhalations that reſt

upon them. From its great elevation, and the purity of the surrounding atmosphere, it is seen at the distance of seventy or eighty miles; and the horizon, which in the benign and temperate region of the Æthiopic, is generally clear and bright, or only overspread with light filmy clouds, assumes a darker and thicker appearance over this mountainous land; while a long train of haze and vapour is seen stretching to windward of the island. This last circumstance is occasioned by the influence of its high land on the exhalations, brought by the south-east trade wind, which blows here nearly the whole year round. As we approach nearer, the land grows more ragged and uneven, and seems now only an irregular heap of broken rocks and hills, which rising abrupt and perpendicular from the water's edge, spire up

to

to a great height, and form, in several places, stupendous overhanging cliffs: they are divided from each other by very narrow valleys, or rather by deep irregular chasms. Nothing in nature can be imagined more barren and dismal, than the aspect of these hills and their declivities, as viewed from the sea. They are black, ragged, and mouldering, without any tree, shrub, or trace of verdure; and the wild inhospitable air of the whole island makes the remoteness and solitude of its situation appear still more forlorn and wretched.

The hills which border on the sea, generally project a little way beyond the stoney beaches of the intermediate valleys, so that the whole coast describes an irregular, indented line, which, from point to point, measures twenty-eight miles in circumference. The greatest

length of the island is ten miles, and its greatest breadth between six and seven. The hills, nearest the sea, are from eight to twelve and fourteen hundred feet in height. Those inland rise much higher; and Diana's Peak, the most elevated part of the ridge which runs from south-west to north-east, is two thousand six hundred and ninety-two feet, above the level of the ocean. From the base of this central ridge, which rises into several peaks and lofty summits with very steep and abrupt declivities, and resembles an elevated ground, intersecting the country, the surrounding hills slope and descend towards the sea. The narrow valleys too, which diverge all round, begin here; and the small brooks that water them, take their rise in these heights, which, when we approach them, we find altogether unlike

unlike the hills on the coaſt, for they are covered with the finest verdure.

It is a ſtriking and singular circumstance with respect to this island, that the ordinary course of things, which takes place in most other countries, is here inverted; that fertility and verdure are only found in the loftiest situations, and that the lands, both hills and valleys, become barren and unfruitful, as they descend towards the sea. The highest summits and their steep declivities, with every little terrace that juts out from their sides, as well as the intermediate hollows, are all covered with the most luxuriant vegetation; while the lower hills on the coast, and most of the valleys that lye between them, are not only naked and barren, but from their mouldering composition and the decay which has taken place, they have an aspect of rudeness

and desolation, which it would be difficult to describe, and not easy to conceive, without having seen them.

Such an appearance of nakedness and sterility presenting itself in the middle of the ocean, seems more likely to repel than to invite settlers. And yet the possession of this unpromising spot, which nature had removed so far from strife and contention, has been disputed by the nations of Europe, because it abounds with excellent water; affords a convenient place of refreshment to fleets, and may, in time of war, be converted into a military station of great strength and importance. It was first discovered by the Portuguese in 1508, who falling in with it on the 21st of May, which is the feast of St. Helen, gave it the name which it still retains. The English made a settlement on it, in 1660; and in 1673 the Dutch took

it

it by surprize. It was retaken, the following year, together with the Dutch ships in the roads, by Captain Munden: and has remained ever since in the possession of the English East India Company.

The history of discovery and colonization is too often the history of injustice and oppression; of countries invaded, because they were rich and valuable; and of their inhabitants enslaved or exterminated, because they were weak. Happily, the settlement of this barren island has afforded no opportunity of increasing the catalogue of crimes, committed by the discoverers of new regions. It was found without any human inhabitants, without quadrupeds, and almost without birds. For excepting some species of sea fowls, which still hover about its coast, and the man of war and tropic birds which

annually resort thither, to build their nests in the cliffs, no other kinds seem to have found their way through the vaſt solitude of the ocean to this remote isle, which was only covered, in a few places, with some indigenous shrubs and plants, and these neither numerous in their kinds, nor very abundant. The sea tortoise, which now frequents the narrow strands and coves about the shore much seldomer than formerly, is perhaps the only creature whose ancient retreat has been disturbed by our possession. In appropriating and subduing the wastes of nature, only to extend and multiply her productions, in diffusing life, together with the means of supporting and rendering it comfortable, and in effecting these benevolent purposes without injury or injustice to others, man would exercise a noble prerogative, befitting the rank

rank which he holds in the creation: But it is to be lamented, that Europeans have seldom traversed the ocean, for the purpose of practising this rare beneficence. The progress of their discoveries, if we except those made in the present reign, instead of diffusing the benefits of nature, and communicating the advantages of culture to remote lands and their inhabitants, has too frequently been marked by rapine and injustice. From the painful recital of the wrongs committed by them on the opposite shores of America and Africa, we may turn with a momentary satisfaction, to contemplate the appropriation and improvement of a desolate and barren spot; the rise of an establishment, effected without injury to any one; and a little colony speaking the language of England, in a remote island of the Æthiopic Ocean.

It may alſo gratify the curious to obſerve, in a minute description of this island, some very remarkable vestiges of those great subterrranean operations, which have successively changed the face of the globe; and which working invisible in its bowels, and reaching through inscrutable depths and communications, can only be known to mankind by their more immediate and destructive violence on its surface; or by those wrecks and monuments which they leave behind them, after they have spent their force and activity. The whole structure and composition of St. Helena seem to demonstrate, that it is the work of subterranean fire; though many appearances render it probable, that its formation has taken place at a very remote period of time, and that the causes to which it owes its peculiar structure and elevation above

the

the waves, have for many ages ceased to exert their agency. However violent these may have been in their immediate operation, and however dreadful their effects on the surrounding elements, the circumstances which have finally exhausted their force, have left this little Island, and the circumambient ocean and atmosphere, in a settled temperament, which at present is never disturbed by any violent agitation. The season of rest and tranquillity seems here to have succeeded to a long period of convulsion; and the ancient seat of volcanic fires and subterranean explosion, has become the stable and temperate abode of plants and animals. It still, however, retains much of the rudeness of its original form, and it has received many deep impressions from the hand of time, which, collectively, as has been observed, give it a singular wildness

wildness and irregularity of aspect. But it enjoys a most serene, salubrious, and unruffled climate; and its high desolate coast conceals from the view of those who approach it, many spots of fine verdure, and delightful recesses, which derive a fresher colouring from the gloom and horror of the naked hills that surround them.

In viewing these hills, the first circumstance that strikes an observer, is the stratified appearance of their declivities, consisting of layers which rise one above another, from the bottom to the summit of the hill. All the matters of which the island is composed, are in this manner placed in beds or strata, very various in their depth, colour and texture; and though in many places they are very irregular in their direction, they seem in general, in penetrating

trating the hill, to ascend obliquely from the base to the summit. On the steeper declivities, the projecting ends of the strata resemble flights of steps; some of them quite regular, and others indented. In the gentler ascents, this appearance is less discernible, or entirely lost under a mass of loose fragments, which have been thrown down from the summit. But wherever the declivities are steep and naked, we observe the strata disposed, like flights of steps, rising one above another, and shewing at different heights, a great variety of tint and colour.

All these layers consist of rock, placed alternately with deep beds of volcanic matter, and thinner layers of variously coloured clays. This rock, which forms the principal strata of the island, and is found in the highest and lowest situations, appears evidently to be

be basaltes. How far it resembles or differs from the basaltes of other countries, which the writer has had no opportunity of examining, will best appear from a more particular account of its sensible qualities, structure, and disposition. It is a ponderous close-grained stone of a flinty hardness, and generally of a dark blue or black colour; though in some situations it is red, and in others differently coloured, in different portions of the same rock. It is never found in large undivided masses, like the granite, but is always regularly fissured, and running in distinct layers. These layers have always somewhat of a columnar appearance, as they consist of perpendicular portions of rock, separated from each other by vertical fissures, and generally traversed by horizontal fissures also, which give them the appearance of fragments placed artificially

tificially one upon another, like the stones of a building. The front of the columns is sometimes flat, but more generally prominent and angular; and in a few places, the whole is regularly prismatic. It is near the water's edge, and towards the summit of the hills, where the rock is most denuded and prominent, that this basaltic appearance is the most evident and striking. In some of these situations, we find a series of columns of equal height, and which, from the uniformity of their structure, resemble a piece of artificial work. Though it is only in a very few places where we recognise so much regularity; yet in every part of the iſland, even in the wildest and most irregular masses of rock, we can always observe some tendency towards this columnar form; and in the quarries from which stones are dug,

dug, they are found to separate in this shape, and often regularly so.

The columns, though commonly perpendicular, are sometimes oblique, and often beautifully curved in the summits, which are adapted to each other; and sometimes the whole is shivered into minute fragments, which yet preserve their natural position. In general, however, the central parts of the rock are close, compact, and of an uniform texture; and it is in the upper and lower parts, where it terminates in the contiguous beds, whether of clay or volcanic matter, that we observe the greatest variety of appearances. Here it is commonly honey-combed, scorified, leafy, or flaky; or terminates in round knobs or kernels, consisting of spherical plates, easily separable, the inner surfaces of which are of a rich indigo colour. The scorified parts

too

too are tinged with a great variety of colours; and it is remarkable, that several places of the bases and summits of the rock are quite black and scorched, as if from the effects of recent fire. They are also full of large excavations, some of which are filled with volcanic fragments, strongly cemented together. It is observable too, that the rock in some places terminates above and below, in an indurated blue or black clay, continuous with it, but passing so insensibly into it, that we cannot discern at what point the stone ends, or the clay begins. This clay is always full of holes and internal cavities.

The rocky strata are of very unequal thickness, some of them being sixteen or twenty feet; others not above one foot; and this difference of depth we have frequently an opportunity of observing in the same stratum of rock, as it traverses the declivity of a hill,

where it discovers, in its upper and under parts, all the variety of appearances which have been described.

Although in all these rocky strata, whether of a greater or less depth, we can generally trace somewhat of the columnar disposition, yet from the scorifications of their bases and summits; from their terminating above and below, at unequal distances, and from the waste and separation which have taken place, the whole becomes ragged and uneven; and the face of the hill at first sight discovers nothing but stupendous projections of rocks, with huge excavations, and overhanging crags. But on examining things more nearly, we find, that the middle of the rock, where it has not been injured by time or the effects of fire, consists of perpendicular portions, distinct and separate from each other. Though this is most striking in the strata of the greatest depth; yet

even

even where the layer is not more than a foot thick, it is found to consist of angular fragments, the upper and under surfaces of which shew all the same appearances that are observable in the summits and bases of the deeper strata.

In describing the direction of these strata, it was observed, that they are commonly parallel with the base of the hill, and that in penetrating its substance, they appear to pass obliquely upwards. But though this is true, with respect to the greater part of them, there is much variety in the direction of others; so that they are found in every position, from the horizontal to the vertical. Even the parallel and horizontal strata, which compose the main bulk of the hills, are so various and irregular, that it is difficult to convey a distinct idea of them. They are in many places, perfectly even and æquidistant; in others, indented and

curved; broken and interrupted. Here and there, they approach very near each other; and again receding, leave a wide intermediate space, which is occupied by an irregular mass of agglutinated volcanic matters. Sometimes, a huge columnar bed of rock, twenty feet deep, is gradually contracted into a thin layer, not above one foot thick, which extending a considerable way, again swells out to its former depth, and terminates in a series of columns, the bases and summits of which are so black and scorified, that they look like trunks of trees, burnt to charcoal, at each end: For it must be remembered, that some effects of fire are always apparent in the upper and lower parts of the rock; especially where the superincumbent and subjacent matters consist of volcanic fragments and scoria. Here it is not only shivered, leafy, and tinged with a variety

riety of colours, while the middle is a close and compact blue stone, but it is also spongy and porous, and full of large cells and interstices, like those in clay or dough, which are occasioned by heat. When the contiguous strata are clay, the extremities of the basaltic rock are more regularly defined, and have fewer impressions of fire.

The cells and caverns, which have been described as peculiar to the summits and bases of the rock, are sometimes met with in the centre of it; and this is often attended with a curious circumstance. In a quarry, situated in the interior part of the island, where these blue rocks are dug out, for the purposes of building, and where they readily separate in a regular shape, the stone when broken, is found to have many large internal cavities, which contain a pure and wholesome water. They are generally quite filled with this

water, which is shut up in the body of a rock, of the closest and most compact texture.

Having endeavoured to give some account of the rocky strata, it may be necessary to say something of the other matters which are placed in alternate layers with them; that the general fabric and composition of the island may be more clearly understood.

The bed of rock is frequently confined, both above and below, by a huge mass of small fragments, irregularly blended, and strongly cemented together, by a grey, red, or black matter; though in some places the whole is friable and mouldering. When these fragments are examined, they are found to be the same sort of light, porous, honey-combed, and scorified stones, which are so profusely scattered over the whole surface of the island. There

is

is much variety in their colour, texture, and specific gravity. The matter that cements them together, and through which they are found dispersed, appears to be a lava, which is equally various in its colour and texture. The intermediate masses, which these compose, and which separate the strata of rock, are in some places of the height of twenty feet or more. But they are of very unequal depth, though, like layers, they form continuous beds, quite round the hills; and at different heights, are interposed between the ascents of rock. On this they encroach so much in some places, that only a thin layer of stone is discernible, passing regularly through the mass, and united at each end with the bed of rock, of which it forms a part. Frequently, eight or ten successive ascents of rock are separated by these volcanic masses, without any other interposing matter;

and from the waste and decay which have taken place, nothing of the kind can be imagined more frightful and threatening than many of the declivities, full of deep excavations, with overhanging masses of loose rock, fragments of which are ever and anon tumbling down. The effects of this decay and separation are in some of the declivities very curious and striking: For the beds of basaltic rock being often wavy and serpentine in their course, the waste of the subjacent matters has left very deep excavations, which are surmounted with arches of stone, like a series of artificial bridges.

Together with the volcanic masses, above described, there are numerous layers of clay, extremely various in colour, texture and hardness: That of a bright red is the most common. It is often seen in layers of only a few inches

inches thick, which divide the contiguous strata of rock, and extend quite round the hills, in a horizontal direction, or only varying a little from it. In other places, it runs obliquely, following the direction of the beds of rock, between which it is interposed. These red veins traverse the whole island, and are found in the highest and lowest situations. It has a very beautiful effect, disposed in regular and uniform lines through the black volcanic matter. Besides the red, which is the most common, there are clays of all other colours; particularly yellow, blue, purple, and indigo, which are sometimes blended in the same layer.

All these clays, when examined, are found to correspond, in several respects, with the structure and appearances of the basaltic rock, which has been described: For not only are different

ferent parts of the same layer differently coloured, but the layer itself is found regularly fissured, separating into uniform and angular portions, and in some places it is distinctly columnar. Like the rock too, the clays are found leafy and flaky, or disposed in knobs and kernels, consisting of concentric lamellæ, whose interior surfaces are tinged with a variety of rich colours; as are all the interior surfaces of the regular portions into which the argillaceous layers are fissured, in a way similar to what takes place in the rock. Although the layers of clay and beds of rock are distinctly separated from each other; yet portions of them are always found, intermixed. In the heart of the rock, we find nodules and kernels of clay; and among the clay, we find nodules and kernels of rock, together with spongy, porous, and cellular stones. It is observable too of those

those argillaceous layers, that they have generally dispersed through them, nodules of clay of greater hardness, and differently coloured, from the layer itself. In a stratum of yellow clay, there was found a vast quantity of nodules, of the size of pistol balls, extremely hard, and of the brightest red, indigo, and Prussian blue. The clays so frequently take this shape, that in the interior of the island, where the kernels and nodules have been washed from the sides of the hills, and exposed in the bottoms of the vallies to the attr. ion of the waters, they look like a collection of pebbles, most beautifully coloured and variegated; and so strong is the deception, that it is only by breaking and crumbling them, that we are satisfied of their not being stones.

In the hills that border on the sea, the clays only appear in thin layers, inter-

interposed at different heights, between the beds of basaltes. Further inland, they are found more abundant, and ſeem to be the principal matter of which many of the interior hills are composed; interspersed, however, with some beds of the same basaltic rock, and the same volcanic products, as near the shore. This difference in the component parts of the exterior and inland parts of the island, though in their fabric they are corresponding and analogous, is very striking. The whole circumference, consisting of ſteep and abrupt hills, divided by deep and narrow valleys, discovers nothing but beds of rocks, such as have been described, placed between volcanic masses, or here and there separated by thin layers of differently coloured clays, particularly red. But the interior hills and ridges, which are much higher, are composed principally of clay.

clay. Some of them are covered with verdure; and those that are naked and barren, discover such a variety of bright and beautiful colours, that no description can convey an adequate idea of them. This variety of appearances on the face of the island becomes the more striking and remarkable, as the whole may be viewed at one glance; and scenery the most opposite and various seen in contrast. From the top of the high central ridge of hills, which intersects the island, there is perhaps one of the most singular prospects in the world. This ridge, which spires up into several peaks and eminences, is covered to the summit with the most luxuriant herbage, and with groves of indigenous and exotic shrubs and trees. Lower down, we observe numerous groups of argillaceous hills, with conical and pyramidal summits, all perfect-

ly

ly naked, but richly coloured with a variety of very bright tints. Intermixed with these hills, or resting on their summits, we see some huge detached masses of rock, which rise several hundred feet above them. Beyond this, the exterior parts of the island, all round where they border on the sea, present the appearance of a burnt and scorified shell, black, ragged, and mouldering, and without the slightest apparent trace of vegetation.

But, notwithstanding this difference in the composition and appearance of the parts bordering on the sea, and of those inland, the same analogy of structure, and the same principle of order, are common to both; and seem to extend through the whole island. In the argillaceous hills, we observe a disposition similar to that in the rocky ones near the shore, and the layers of clay are seen rising one above another, like

like flights of steps, and sometimes distinguished by their difference of colour. But these appearances are seen less distinctly than in the rocks: For these hills are generally much cut and disfigured with ravines, which have formed some of their declivities into steep and broken ridges, and the clays of different colours which have been washed down are blended together; so that the whole becomes irregularly variegated. Nothing can be brighter than the various tints of colour which these cliffs exhibit.

Through all these clays, which, in their structure and disposition, bear so great a resemblance to the rocks, we find dispersed, though in a much smaller proportion than near the shore, the same basaltic stone, and the same volcanic scoria, together with a very ponderous lava, resembling iron recently fused. In the deep valleys and chasms,

chasms, between the argillaceous hills, where the superincumbent parts have been washed away, we also observe in some places, a series of columns of rock, uniting the bases of the opposite hills and ridges, over which streamlets of water form cascades. At the summits too, and in the middle of the ascents, masses of columnar rock are seen here and there projecting.

It is in this part of the island, viz. among the argillaceous hills, that one is particularly struck with an appearance, which, though it is seen more or less in every part of ST. HELENA, is most remarkable where the clays superabound. One observes here, besides the horizontal and parallel strata of which the hills chiefly consist, that they are all penetrated by huge perpendicular strata, of loose and broken rock; and that they are also traversed by

by septa or oblique ridges, which divide their declivities into spaces, triangular or curved. These septa are composed of clay or rock, or a matter so nearly allied to both, that it is difficult, from its appearance, to tell which. With respect to the perpendicular strata, which descend from the summits to the bottoms of the hills, they are composed, as far as they could be examined, of a red, grey, or blue rock, often of great breadth, and all regularly fissured, the fragments in many places being quite separate and distinct; but as uniformly fashioned and evenly placed, as the stones of a building. Several of these vertical strata rose considerably above the plane of the hills, which they penetrated, and presented the appearance of huge walls of stone, surmounting their summits, and descending along their declivities to the base. The fragments which compose them

are of all sizes; some of them being six or eight feet long, and others only a few inches, but so regular and smooth, that they seem well adapted to the purposes of masonry, without the aid of the hammer or chissel. It is to be observed, that the fissures in the vertical strata are often in the direction of the stratum itself; and, in some places, they separate the whole mass into perpendicular columns, which are again subdivided by horizontal fissures into regular portions. Others of the vertical beds consist of flat fragments, placed horizontally on each other. But a great variety of fracture occurs in different situations, and even in different parts of the same mass of rock.

From this disjointed texture, the vertical strata which occupy the steeper declivities, become subject to what may literally be called dilapidation. In these places, they are seldom observed

to

to be elevated much above the face of the hill, as the fragments separate and tumble down, in proportion as the surrounding soft parts decay, or are washed away: Yet, on the very summit of the hill, a portion of the stratum frequently remains entire, and rises to an amazing height. There is a singular groupe of these detached masses on the south side of the island, to which the inhabitants have given the names of LOT, LOT'S WIFE and DAUGHTERS. They rise to an astonishing height, above the top of the hills on which they stand; and though they seem at first sight, detached and unconnected masses, they are found, on examination, to form a part of the vertical strata, and probably from their position have resisted the decay which has taken place in the declivities. They are composed of distinct fragments, such as have been described, and have a most striking ap-

pearance, surrounded by deep chasms and tremendous precipices, and with clusters of argillaceous hills, the most picturesque and romantic, whose summits are all regularly fashioned; and discover every tint of colour, excepting that of vegetable green. Over all this part of the island, which borders on SANDY BAY, there is a wildness in the surrounding scenery, surpassing every thing which the writer of this has ever seen. One feels here, as if transported into a new planet, where every object strikes by its novelty, and is altogether unlike any thing which he has met with before. All the surrounding hills, cliffs, rocks, and precipices are so strangely fashioned, and so fantastically mixed and blended, that they resemble more the aerial shapes, which we see among the clouds, than any thing composed of denser materials.

Besides

Besides the vertical strata, which are seen on each side of the hills, descending from the top to the bottom, and which in several places rise to a great height above their summits, there are some large insulated and conical masses of the same broken and fissured rock, apparently unconnected with any extended strata, which project perpendicularly through the hills, or from the chasms and narrow valleys between them. There is one of these in a hollow, on the south side of the island, of an immense size and great height, and of an irregular conical shape; and so much broken and fissured all through, that it seems surprising it has held together. One thing seems evident, that all these fissures must have been acquired in the position in which the stone now rests, as it could not possibly be moved or displaced, without disturbing the order of its component

parts. Had these rocks and strata, in their present loose and disjointed condition, being raised by subterranean shocks, the portions of which they consist, must have been jumbled together in the utmost confusion.

Whether the rock which composes the vertical strata, and the insulated masses which have been described, is essentially different from the basaltes of the parallel beds, the writer will not presume to decide: But it has, in several places, a fabric somewhat similar, being composed of long fragments, placed on end, and resembling columns. In the valleys, where there are many large masses, which have been detached from the hills, we find that the body of the rock is regularly divided by fissures into columns, some of which are angular.

On the sides of some of the highest hills, a very curious appearance presented

sented itself; but from their steepness, and the difficulty of ascending, it was impossible to get near enough to examine it accurately. The appearance was this: The whole, or a part of the declivity, was formed into rows of small vertical ridges, regularly defined at the top and bottom; and having, at the distance from which they were viewed, a considerable resemblance to the pipes of an organ. These ridges were seen at different heights in detached groupes. This appearance, which was very regular and curious, probably proceeded from rock or clay, disposed in a columnar form: For it was too uniform and regular to be the effect of accident.

The foregoing observations, though they have already extended to a considerable length, only comprize what relates to the general appearance, structure, and position of the main strata, of

which the island is composed. There are still some detached circumstances which remain to be noticed.

The whole surface of the island is every where overspread with a vast quantity of loose fragments, consisting of splinters of the blue basaltic rock, intermixed with light, spongy, porous, and honeycombed stones, very various in their colour and specific gravity.

No sand is found on the coast, excepting at one place, which, on that account, is called SANDY BAY; and the island on this side, from whatever cause, seems to have suffered greater waste and decay than in any other part. The sand here is chiefly black, and evidently composed of portions of the basaltic rock. All the other little strands and beaches consist of small stones, very various in their colours, and regularly rounded and smooth, but without any admixture of sand. There are some

quartzy

quartzy and chrystallized stones, but no granite; at least, the writer of this could not meet with any. In some of the valleys there is a kind of free-stone; and there are also some beds of marle and lime-stone. The former is of a poor and hungry quality, and the latter is always found in a friable and mouldering state.

On the tops of the hills, there are some masses of rock, broken into regular steps, like trap. The fracture is sometimes upwards, and sometimes downwards. When the latter is the case, the whole exhibits somewhat of the appearance of an inverted cone. Several of these impending masses overhang the paths, which are cut round the brow of the hills, and have a very threatening aspect. Where the summit of the hill is contracted and narrow, the whole is sometimes crowned with a huge angular mass of rock, which,

which, at a distance, has somewhat of the appearance of a bastion; while the indented course of some of the projecting strata below, may not unaptly be compared to the zig-zag of a fortification.

The hills, round the coast, are quite separate and distinct from each other. But, inland, they are all connected with the mountainous ridge which intersects the island. Many of them are irregularly shaped, and there is much inequality in their surfaces, from the waste that has taken place: Yet several of them are very regularly shaped in their declivities and summits; and the layers of which they consist are disposed in an orderly manner, slanting obliquely upwards. Where the summits are the most uniformly fashioned, the layers are observed to be thin, and to ascend with a considerable degree of obliquity, all round the hill. Where one side of the

the hill slopes, and the opposite is steep, we observe the layers that form the sloping side, to ascend obliquely upwards, and those on the steep or overhanging side to be placed horizontally, or to descend obliquely downwards.

Along the coast, the bottoms of the hills are full of deep excavations, which admit the tides; and close to these there are, in several places, masses of very ragged and irregular rocks, cemented together with a ponderous lava. These rocks are cavernous and hollow, and rise above the surface of the sea. One hears the noise of the subterranean waters passing underneath, into the excavations of the island, or boiling up in whirlpools at the foot of the hills. The depth and extent of these excavations under the hills, into which the ocean penetrates, the writer could not learn. Some vague reports about them, among the inhabitants, as they do not seem

seem probable, need not be mentioned. Where the bottoms of the hills are in this way, hollow and cavernous, there are commonly very high cliffs and precipices, with projecting masses of rock, apparently of so loose a texture, that it is not a pleasant task to explore the recesses which lye underneath them.

The writer is fearful of being tiresome, by the length and minuteness of this description, though he has only noticed the most striking and remarkable circumstances, and endeavoured to give a general though accurate idea of this island, and of the order in which its strata are disposed, without too much encumbering the subject with a detail of the many irregularities that are met with. These irregularities are indeed so great, in some situations, as might induce us, at first sight, to believe, that the island, at some period posterior to its formation, has been exposed to some con-

convulsive and tremulous shocks, which have occasioned so great a disruption and displacement of its strata: Yet the whole strata of the same hill are not found in this state of disorder; and when the middle parts are most confused and irregular, we observe some beds of rock and layers of clay, occupying the base and summit of the hill, uniform and evenly defined, and without any break or interruption. In what manner any shock could have produced the confusion which we see in the middle of the hill, without disordering the strata of the top and bottom, it may be difficult to conceive.

CHAP. II.

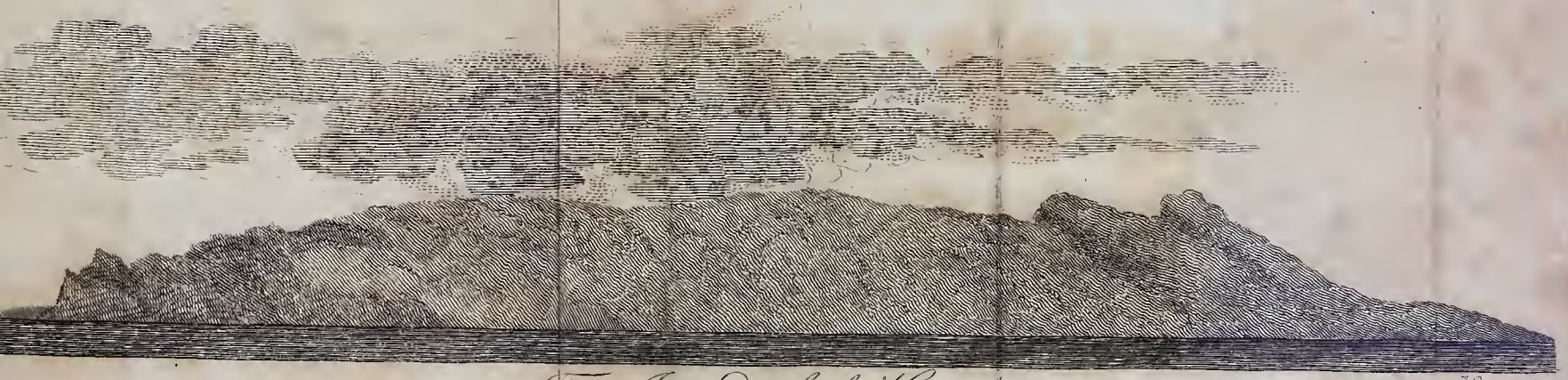
REFLECTIONS ON THE ORIGIN AND FORMATION OF THE ISLAND.

THE appearance of a volcanic island in the middle of the ocean, so far removed from any other land, is an object that excites curiosity and attention. It has been supposed by some geologists, that such islands are never produced far out at sea, or in situations unconnected with other shores. But here we have an example of the contrary, in an island, which, from its distance, cannot be supposed to have any connection with the shores of other lands; and which has been raised by some extraordinary effort of Nature, from the bottom of a vast unfathomable ocean. Its remote and solitary situation, and the wildness and singularity

singularity of its whole aspect, naturally suggest some reflections on the probable circumstances of its origin and formation. But however natural and interesting such reflections may be to the human mind, great difficulty and uncertainty must always attend our inquiries into those remote and mysterious processes of nature, which lye beyond the reach of our observation and experience. The formation of the great strata of the globe, the production of mountains, and the emersion of islands from the bottom of the sea, are operations which, as we have never had an opportunity of seeing them actually take place, we can only reason about from present appearances; and we can in this way at last only arrive at conclusions, which, from the imperfection of our knowledge, do not admit of the clearest and most satisfactory evidence.

evidence. From the various, opposite, and contradictory views of things, into which, even men of science and observation have been led, in their reasonings concerning the structure of the globe, it should seem that Nature, in the manner of accomplishing her great terraqueous revolutions, has hitherto mocked the imbecility of human research.

Yet some of these ingenious theories, which aim at explaining the changes that have taken place in the constitution of the globe, are valuable, on account of the many beautiful and interesting views of Nature which they exhibit; and even the most improbable of them have not entirely been without their use, as they have indirectly contributed to the advancement of knowledge: For men seldom labour so assiduously in comparing and investigating facts, as when they



The Island of St Helena,
distant Six leagues.

they have some favourite hypothesis to support; and the meteors of theory, although they cannot dispel the darkness of the hemisphere, may yet incidentally discover some latent paths and recesses in the labyrinth of Nature. In this way, many important facts have been brought to light, which might otherwise have lain concealed; and ardent minds, while intent on the pursuit of some extravagant phantom, have frequently hit upon the discovery of useful truths. Considerable advances have accordingly been made in examining those parts of the globe, which lye open to investigation; though many facts are still wanting, and probably the accumulated knowledge of ages may be required to enable philosophers to frame a theory of the earth, that shall fully comprehend and explain all its phenomena. On this subject we may cherish a hope, congenial to the ardour and enthusiasm

of science, that future generations, aided by ampler lights and a wider field of observation, may fully unravel that order and succession of appearances in the constitution of the globe, of which, at present, we have but a very dark and imperfect glimpse. The subject has already fixed, and will probably continue to attract the attention of men of the first ingenuity, as one of the most interesting and important objects of inquiry, in the whole circle of natural science. Though man was not stationed here, for the sole purpose of watching the revolutions of the globe; yet, as a thinking and intelligent Being, few things can interest him more than a knowledge of those changes, and of the fabric and laws of the planet which he inhabits.

In examining the surface of the globe, with a view to improve our knowledge of its structure and revolutions, no spot, however inconsiderable, that offers any thing

thing curious or singular, is undeserving of notice. But whether the writer of this, in the account he has attempted to give of the structure of ST. HELENA, and in the conclusions, or rather conjectures, which he is about to draw from this, shall either satisfy the learned, or gratify the curious, must be left to the more unbiassed judgment of his readers. Whatever inferences, or conjectures, he has to propose, seem to himself at least to rise naturally out of the appearances which have been described. How far the analogy of these appearances may be extended to other parts of the earth, he is not sufficiently prepared to inquire: For though Nature, in raising this insulated mass from the bed of the sea, and in her manner of disposing its constituent strata, has unquestionably not departed from her established laws and order; yet the sphere of her agency here affords but a very limited and narrow view of the various effects of her

subterranean operations; and it would be in vain to seek for the fabric and revolutions of the terraqueous globe, in the model of a little island in the Æthiopic.

That St. Helena has been the seat of volcanic fires will hardly be questioned by any one, who examines the materials of which it is composed: For to say nothing of the immense profusion of scorified, cavernous, light, spongy, and vitrified stones, which everywhere cover its surface, and the vast beds of the same sort of stones, cemented together with lava, which penetrate its whole substance; even its hardest and most compact materials, bear evident vestiges of fire. The summits and bases of the basaltic rock are always more or less scorified, cellular, and honey-combed; and several of them of a smoky black colour, as if from the effects of recent ignition.

In

In some of those beds of basaltes, which are interposed between the largest volcanic masses, we find the whole body of the rock excavated like the hollow trunks of decayed trees, and only a thin exterior plate of stone, remaining variously bent, and often beautifully curved and waved, which could not have taken place in a substance naturally brittle, without its being previously softened by intense heat. The interior surface of these hollow and excavated rocks are either coated over with small volcanic fragments, strongly cemented, or they are of bright and glossy colours, like polished metallic substances. From what agent but fire could all these effects proceed? But after the particular description which has been given of the different beds and layers, it seems unnecessary to waste time, in endeavouring to prove what will hardly be doubted, that a great part, at least, of the materials

which compose ST. HELENA, must have flowed from the ignited crater of a volcano.

A question of more difficulty will naturally occur; whether ST. HELENA, as an island or fragment of some ancient continent, existed above water, before it became the seat of the volcano, which has so completely changed its structure and aspect? or, whether the whole is a volcanized mass, raised by successive eruptions from the bed of the sea to its present height?

At first sight, the remarkable difference observable between the interior parts and the hills on the shore, might lead us to suppose, that the former is a remnant of some primogenial land, which has been attacked and desolated by volcanos, the eruptions of which have formed all the surrounding parts of the island. This opinion is plausible; and though it will probably not satisfy those, who

who may in future examine things more closely, it is the one embraced by Mr. FORSTER. He observes, that he can venture to assert of several isles, from their external appearance, that they existed above water, before they had a volcano; and were entirely changed, and partly subverted by subterraneous fire. As he supports and illustrates this opinion from the present appearances of ASCENSION and ST. HELENA, which bear a great resemblance to each other, it may be proper here to quote what he says of both these islands.

" The dreariness of this island (ASCEN-
" SION) surpassed all the horrors of
" EASTER ISLAND, and TERRA DEL
" FUEGO, even without the assistance of
" snow. It was a ruinous heap of rocks,
" changed by the fire of a volcano.
" Nearly in the centre of the island, rises
" a broad white mountain of great height,
" on which we discovered some verdure

" by the help of our glasses, from whence " it has obtained the name of GREEN " MOUNTAIN. On landing, we ascend- " ed among heaps of black cavernous " stone, which perfectly resembles the " most common lavas of VESUVIUS and " ICELAND, and of which the broken " pieces looked as if they had been ac- " cumulated by art. The lava currents, " cooling very suddenly, may easily be " imagined to produce such an effect. " Having ascended about fifteen yards " perpendicular, we found ourselves on " a great level plain of six or eight miles " in circuit; in the different corners of " which, we observed a large hill of an " exact conical shape, and of a reddish " colour, standing perfectly insulated. " Part of the plain between these hills " was covered with great numbers of " smaller hillocks, consisting of the same " wild and ragged lava as that near the " sea, and ringing like glass, when two

" pieces

" pieces are knocked together. The " ground between the heaps of lava was " covered with black earth; but where " these heaps did not appear, the whole " was red earth. The conic hills con- " sisted of a very different sort of lava, " which was red, soft, and crumbling " into earth. We concluded, that the " plain on which we stood was once " the crater or seat of a volcano, by the " accumulation of whose cinders and " pumice stones, the conic hills had " been gradually formed; and that the " currents of lava, which we now saw, " divided into many heaps, had perhaps " been gradually buried in fresh cinders " and ashes; and the waters coming " down from the interior mountains, in " the rainy season, had smoothened every " thing in their way, and filled up by " degrees the cavity of the crater. The " rocky black lava was the residence of " numberless man of war birds and

" boobies,

" boobies, which sat on their eggs, and " suffered us to come close to them. " On all this rocky ground, we only met " with ten shrivelled plants, which were " of two sorts, a species of spurge and " a bind weed.

" Having climbed over an extensive " and tremendous current of lava, more " solid than that near the shore, we came " to the foot of the GREEN MOUNTAIN, " which, even from the ship, we had plain- " ly distinguished to be of a different na- " ture from the rest of the country. The " lava which surrounded it, was covered " with a prodigious quantity of purslane " and a kind of new fern. The great " mountain is divided in its extremities, " by various clifts, into several bodies; " but in the centre, they all unite and " form one broad mass of great height. " The whole appears to consist of a grit- " ty tophaceous lime-stone, which has " never been attacked by the volcano,

" but

" but probably existed prior to its erup-
" tion.

" ST. HELENA has on its outside, es-
" pecially where the ships lye at anchor,
" an appearance, if possible, more dread-
" ful and dreary than ASCENSION: but
" the further you advance, the less deso-
" late the country appears, and the most
" interior parts are always covered with
" plants, trees, and verdure. However,
" there are every where the most evident
" marks of its having undergone a great
" and total change, from a volcano and
" earthquake, which perhaps sunk the
" greatest part of it in the sea.

" We visited (says the same author)
" iſles that had still volcanos burning;
" others that had only elevation, and
" marks of being formed in remote ages
" by a volcano; and lastly, we found iſles
" that had no remains of a volcano, but
" strong and undoubted vestiges of hav-
" ing been violently changed, and partly

" over-

" overturned by an earthquake, subterra-
" neous fire, and a volcano. I cannot help
" referring EASTER ISLAND, ST. HELE-
" NA, and ASCENSION to the last."—
These islands he supposes to have existed above water before they were attacked by volcanos, or changed by the effect of subterraneous fire or earthquakes.

How far this opinion of Mr. FORSTER is probable with respect to ASCENSION and EASTER ISLAND, the writer, who has never had an opportunity of examining them, cannot venture to say. But with regard to ST. HELENA, this opinion seems to be founded on rather a cursory and superficial view of things; and it will be difficult to reconcile it with any part of the exterior fabric of the island, which lies open to investigation. If there is any portion of primogenial land here, it must consist of a central nucleus, which is hid from our view. All the superficial parts, from top to bottom, have the same ana-

logy

logy of structure, and the same volcanic appearances, dispersed through them. There is indeed, as has been observed, a remarkable difference between the composition of the interior heights and the hills on the shore. In the former, there is more clay and decayed stone: In the latter, more basaltic rock and volcanic cinders. But this difference, in the composition of these parts, is rather apparent than real; and seems to arise from the different proportions of the same materials, which are common to both situations. All the volcanic hills on the coast are traversed by thin layers of clay, and the interior hills, which are chiefly of clay, are penetrated by beds of basaltic rock and volcanic cinders and scoria. Even the huge perpendicular strata of broken and fissured rock, and the septa or cross ridges of decayed stone, which are so numerous throughout all the argillaceous hills, are, however, not peculiar

to

to them, as several of the hills on the shore, consisting of parallel layers of basaltes, lava and clay, are also penetrated by vertical strata of shivered rock. That the interior mountains, consisting chiefly of clay and of rock, which is very much broken and fissured, should have undergone a greater decomposition than the surrounding parts, cannot appear surprizing; when it is considered, that these heights have long been covered with plants; and that from this circumstance, and their great elevation, they derive a more constant supply of moisture from the clouds; being frequently wet with rain, and inveloped in vapour, while the hills on the coast are scorched with sunshine. The decomposition which has taken place here, and the verdure which overspreads these lofty eminences, make them appear, at first sight, as altogether different in their nature, from the naked and rude hills that surround them. But this difference, as has been already observed,

served, is rather apparent than real; and the effects of fire seem as plain and evident here, as in any other part of the island. The clays, or coloured friable earths, which compose the conical hills, seem to be of the same nature and fabric as the clays that are placed in layers between the volcanic beds on the shore; and the perpendicular strata, and oblique ridges of rock, are all cracked and fissured, and generally into regular portions, in a way similar to the horizontal beds of basaltes. From this analogy of structure and appearances, which prevails throughout every part of the island, is it not reasonable to conclude, that the whole has been raised from the bed of the sea by subterranean fire, to which it owes its peculiar form and conformation? This opinion seems to correspond with every appearance, observable in the present state of the island: Yet it is not easy to conceive, in what manner volcanic fires could, for a length

a length of time, subsist at the bottom of the sea, without being extinguished; although philosophers have endeavoured to explain how this takes place, and some of them have supposed, that all volcanos are originally formed in this situation. Whatever difficulty, however, may attend our conception of it, and of the dreadful conflict between the burning lava and superincumbent ocean, the fact seems unquestionable, that the basis of ST. HELENA has been formed by successive eruptions under water, if indeed the Æthiopic existed at the time of its formation. There seems no way in which we can avoid this inference, or escape from the difficulties attending it, without supposing, that there is here some interior nucleus of primogenial land, which has served as a nidus to the volcano, and which may now lie concealed under its lava and cinders. But of this there is no evidence; the whole, to as great a depth

as

as we can penetrate, being of the same volcanic nature as the parts above water. It is indeed near the water's edge, and under its surface, that we find the largest masses of lava and of volcanic cinders and scoria. These, in many places, where they are accessible to the tides, have been washed away, and have left deep excavations; from which cause, the bottoms of some of the hills are so hollow and cavernous, that they might easily present, to the fancy of a poet, the idea of an island floating on the bosom of the waves.

Some travellers, who have visited this island, and who have been struck with the wildness and irregularity of its aspect, without sufficiently attending to its fabric and conformation, have considered it as the effect of an earthquake, or some great subterranean shock, which bursting open the vault of the ocean, has suddenly protruded the whole upwards, and left it in the condition in which we now find

it. But however gratifying it might be to think, that a portion of the interior globe could be thus exposed to human curiosity, appearances will not support us in thinking, that ST. HELENA has been raised in this manner: For, had it been suddenly raised by an earthquake, or any such convulsive shock, it seems probable, that the order and disposition of its parts must have suffered greater derangement and marks of violence from such a shock, than we actually find to be the case. The materials of which it is composed are so loose and disjointed, its hardest strata are often shivered into portions so minute, and so liable to separation, from the manner in which they rest upon one another, that any tremulous shock, like that of an earthquake, must, in elevating the island, have produced confusion in its component parts, and would probably have blended the whole into an undistinguishable mass. We might as easily believe,

lieve, that an earthquake could raise a city, without throwing down its buildings, as to imagine that the hills of ST. HELENA could have been suddenly raised three thousand feet, without disturbing the position of the broken, loose, and hanging rocks, of which they consist. To suppose any elevating and expansive force acting so equably and uniformly on its base, as to raise the whole, without discomposing its constituent parts, is to suppose an existence of which we have no experience, and which, in its operation, would be altogether unlike those subterranean shocks, which bursting forth from time to time, have convulsed and deformed whatever was exposed to their violence.

It seems therefore probable, that this island must have been raised, not suddenly, but gradually, and that all the cracks and fissures in the horizontal, oblique, and perpendicular strata of rock, and in

the layers of clay, must have been acquired in the position in which these strata now rest, and most probably in the act of cooling and hardening from a soft and liquefied state. For it seems impossible, in their present broken and disjointed condition, that they could have been elevated or exposed to any general and violent concussion, without suffering a total change in their order and disposition. There is indeed much irregularity, as has been observed already, in the direction and depth of the different strata. But the portions of which they consist are exactly fitted to each other; and, however minute the fragments into which some of the rocks are split, all the parts have yet preserved their natural position. Most of the irregularities discernible in the strata themselves, are only such as may have happened by ignited matter, flowing from volcanic craters, over irregular surfaces, with a greater or less declivity in different places

places, and in different proportions, during successive eruptions.

All the parallel beds of basaltic rock, volcanic cinders, and fissured clay, which compose the main body of the hills, seem to point out the progressive eruptions of those volcanos from which they arose; yet we can discover no remaining craters. These must have been obliterated by time, or they must have been filled up by some subterranean operation, which took place after the formation of the hills themselves; and there are some appearances, which will be mentioned afterwards, that render this last supposition probable.

It seems not likely, that the perpendicular and oblique strata of broken and fissured rock, which pass through the volcanic beds, could have existed before the formation of the hills, which support and keep them together in their present position; and it is impossible to conceive, that

the parallel horizontal layers, and those that cross them, were the effect of operations, co-existent and simultaneous.—Whence it will follow, that the elevation of the perpendicular strata, and of the numerous oblique ridges of stone which intersect the hills, must have taken place at some period subsequent to the elevation of the island itself.

From all this, the most probable conclusion seems to be, that the various matters, composing the parallel layers of the hills, have been successively accumulated by volcanic eruptions: That these matters, on cooling and hardening, not only became fissured and cracked in the manner we find them, but that, in many places, the hills themselves were affected with larger rents and chasms, from the same causes: That all these rents and chasms, as well as the craters, were afterwards filled up with explosions of liquefied matter from below: That this liquefied matter,

matter, which, upon cooling and contracting, would also naturally become fissured and broken, as we see it, has formed all the perpendicular strata of rock, and the oblique ridges that cross the hills. This opinion seems conformable to every appearance which we meet with in the island; for all the beds and layers, which compose the main bulk of the hills, are unquestionably volcanic; and in many places disposed, as we should expect, by matter issuing from the mouth of a volcano; and on the spot where we should naturally look for a crater, we sometimes find an angular or conical mass of stone, or a huge vertical stratum, dividing the hill into two equal segments. As the clays and coloured earths would be more subject to rents and fissures than the stoney matter, we accordingly observe, that the argillaceous hills, more than any other part, are penetrated by vertical strata of rock, and intersected throughout all the

declivities with numerous oblique ridges of cracked and shivered stone. From the loose texture of all these vertical strata and oblique ridges, and of the insulated and perpendicular masses of stone, it seems evident, as has been previously observed, that they must have acquired all their cracks and fissures, while in their present situation; as they could not possibly be displaced, without a total disruption of their component parts: That consequently, they must have been elevated, while in a soft and liquefied state from the effects of heat; and that afterwards, upon cooling and contracting, they became split and fissured in the manner in which we find them.

Here then we observe in the constitution of this island, the traces of two distinct operations, which could not have been simultaneous, but must have succeeded one another. By the first, the great mass of the hills has been formed by

by progressive eruptions from volcanic craters. By the second, all the rents and chasms of the island, as well as the craters themselves, have been filled up by subsequent explosions of ignited matter. It should seem then, that the subterranean sources which fed the volcanic eruptions, were not entirely exhausted, when the island was raised to its present height; but that, after a temporary cessation, they renewed their activity, and forced up torrents of burning and melted matter, thro' all the rents and clefts which had been formed in the hills. How intimately the whole island has been penetrated by some such explosions, which have passed thro' every pervious chink and opening, we every where see abundant proof. Many of the beds of coloured earth and clay are perforated by plates of shivered stone, not above an inch thick; and many of the fissures in the basaltic rock are filled with veins of red earth, resembling brick-dust.

All

All the argillaceous hills, as has been already noticed, are traversed by numerous oblique ridges of fissured stone; and besides the immense vertical beds that divide the hills, there are, in some places, huge perpendicular masses of loose and shattered rock, apparently unconnected with any extended strata. As these vertical and oblique strata could not possibly have preserved their position in a detached and insulated state, they must be of a date posterior to the hills that support them; and as they are here supposed to derive their formation from the effects of the same subterranean fires which raised the island, they ought not to differ essentially in their structure and appearance from the parts around them. We accordingly find, that all the stoney matter composing them, is of such a character, as to render it highly probable, that it must have been subjected to the action of intense

intense heat, and elevated while in a soft and liquid state.

But, if instead of supposing that all these perpendicular and oblique strata of rock have been elevated, after the formation of the island, it should be thought a more obvious and natural conclusion, to consider them only as prominent and visible points of some interior nucleus of ancient land, which from having been formerly the seat of a volcano, is now overspread with its lava and cinders;—let it be remembered, that the strata in question bear such evident marks of fire, and of having been fused; that they are so intimately mixed and blended with substances confessedly volcanic; and that, in fine, all the superficial parts of the island are of a structure and appearance so analogous and corresponding, that it is very difficult to consider any particular part as separate and distinct in its origin from others. The whole, from the base to the summit, seems

to

to be one great volcanized mass, consisting of irregular beds of volcanic scoria, basaltic rock, and coloured earths and clays; and these coloured earths, which appear only in minute lines among the hills on the shore, are the principal matter of which the interior heights and conical hills are composed. All these hills are traversed by the perpendicular and oblique strata in question; and no other supposition has occurred more probable to the writer, than that these strata must have been raised by some operation, subsequent to the formation of the hills which they pass through, and without the support of which, they could not possibly preserve their present situation.

During this last operation, the island may have been affected with some shocks and concussions, from the effects of that expansive force which was necessary to elevate the huge vertical beds and detached masses of rock; and such concussions may

may have produced much irregularity, without destroying the general structure and order of the whole. In this way, we may account for the confusion and irregularity which we meet with in some places, without the supposition of an earthquake. Yet, in a situation where there are so many unquestionable vestiges of subterranean fire, it would be absurd, and contrary to fact and experience, to suppose that no earthquakes have been felt. All that the writer contends for is, that the elevation of an orderly structure could not have proceeded from such a cause. That earthquakes frequently happen in the neighbourhood of volcanos is well known; and that they may have taken place at ST. HELENA, is therefore not improbable. But whatever shocks of this kind have been felt here, their effects seem to have been not to raise, but to sink some portion of the island in the sea; and several of the hills on the shore look

as

as if a great part of them had been torn away, and separated by violence.

It also deserves notice, that the bed of the ocean, whether from the effect of earthquakes, subterranean fires, or the descent of currents of lava from the hills, is so ragged and irregular to a considerable distance, all round the island, that a person on sounding, finds it deepen suddenly, from fifteen to eighty or one hundred fathoms. It will hardly be doubted, that this inequality and abruptness in the bed of the sea, are in some way connected with the causes which raised the island itself, and the effects of whose operation may have extended to a far greater distance than it is possible to discover. We know, that ST. HELENA is not the only volcanic island in these latitudes; ASCENSION, which is nearly seven hundred miles to the northward of it, is of a similar structure, and of an appearance equally ragged and dismal. Of some others, which

which have been laid down in charts, very little is known; and the writer has been able to learn nothing. It seems not improbable, however, that they all may have had the same origin; and that volcanic fires, with very extensive subterranean communications, have anciently subsisted in the region of the southern Atlantic.

It is, indeed, impossible not to be struck with the numerous remains of volcanos (some of them still burning) which are met with on the borders of this ocean, and of the northern Atlantic, between the latitude of ST. HELENA and ASCENSION and that of the AZORES. It was somewhere within this track, according to a tradition derived from the remotest antiquity, that a very large island was formerly situated, a little way to the westward of EUROPE and AFRICA, and said to have been equal to both in its extent. The origin of the numerous vol-

canos

canos which encompass this space, may have had some connection with the earthquakes and subterraneous fires which are said to have destroyed that unfortunate land. Of its existence and submersion, we have only a very faint and imperfect record, transmitted to us by *Plato*, who derived his information from the traditionary Annals of the Priests of ÆGYPT. But the fact of the existence and destruction of such a land is the more probable in itself, as it only forms a link in that series of revolutions, which appear to have affected the whole surface of the globe. No one, who admits that EUROPE has been once the bed of the ocean (and few will question this) can doubt that a continent may anciently have occupied the bed of the Atlantic. If, according to Mr. FORSTER, ASCENSION and ST. HELENA really contain any portion of primogenial land, they might be regarded as two promontories

montories or headlands, of some submerged continent, the volcanos of which, according to BUFFON, could only exist in the loftiest situations.

It may be inquired (but who shall satisfy such an inquiry?) whether ST. HELENA, which is so undisputably the effect of a volcano, is likely again to be affected by a renovation of those fires which produced it? It may be observed, that many volcanos, apparently extinct, have been suddenly rekindled; and that some, which had been dormant so long, that only a faint memory was preserved of their ever having been burning mountains, have yet burst forth with great violence. Such unexpected eruptions have proved the more calamitous, as the inhabitants of the country, trusting to the deceitful repose of those subterranean fires, and allured by the fertility produced from their ashes, had resorted

to their neighbourhood, in unsuspecting security.

The first recorded eruption of VESUVIUS, in which PLINY the naturalist lost his life, and the cities of HERCULANEUM, STABII, and POMPEII were buried under its ashes on the same day, took place after a long series of ages had obliterated the remembrance of its ancient eruptions, though men of science suspected it to have been formerly a volcano. In the reign of TITUS, in which this eruption happened, it was all cultivated; and distinguished chiefly from other mountains by its amazing fertility. After this eruption, it continued to burn at intervals, during the period of a thousand years, when its fires again became apparently extinct, and remained so for almost four centuries, that is, from 1136 to 1506. During this long cessation, it is said, that every part of VESUVIUS was inhabited, and that a coppice, and

pools

pools of water, occupied the spot which is now its crater. After a repose of so many ages, it might naturally be considered as an extinguished volcano: Yet its fires only slumbered in their subterranean vaults, to burst forth with aggravated terror and calamity. During the last three centuries, there have been many dreadful eruptions of this volcano; and they seem to have increased in frequency and violence within the last hundred years.

It is now three hundred years since ST. HELENA was discovered. At that period, many of its loftiest summits, whence, it is probable, that the lava and cinders which every where appear in its composition had issued, were overspread with shrubs and plants. The formation of a soil, and the first growth of vegetables, in a situation so remote and unconnected, and apparently so unfavourable to the operation of those causes,

which are known to transport the seeds of plants from one land to another, could only have been accomplished in a great length of time. And though we have no marks to guide us, in ascertaining what this period may have been, it seems reasonable to conclude, that at the time of its discovery, many ages had elapsed since ST. HELENA emitted fire or smoke, or shewed any signs of an active volcano. But, further, we do not find in this island, or its neighbourhood, any of those appearances which are usually met with in situations where there are active volcanos; or such as have broken out, after a long interval of rest. No shocks of earthquakes are felt here. There is no sign of any submarine volcano in the neighbourhood, and in the island itself there are no sulphureous, bituminous, or inflammable matters, or any circumstance from which we can infer the existence of any concealed subterranean

terranean fires. The surrounding atmosphere too discovers but seldom, and only in a very slight degree, any of those electric phænomena which are supposed to have a connection with the agency of volcanos. In fine, this island, and the circumambient ocean and atmosphere, having remained for many ages in a settled temperature, which seems to have suffered no interruption or disturbance, is it reasonable to infer from this and the other circumstances which have been mentioned, that the submarine fires, which anciently existed in this neighbourhood, have become permanently extinct; and that no latent source remains, which is likely to endanger their renovation? That all the inflammable mines, which fed the volcanos, have been exhausted, and that the submarine vaults themselves have been overflowed by the ocean, or otherwise obliterated? Such might naturally be the inference, if we

could presume to decide this question by present appearances. But the question itself involves too many objects, which lye beyond the reach of our observation, to admit of a satisfactory solution. In every step which we take in such an inquiry, we are touching on the bounds of an undiscovered region, where the last glimmerings of probability die away, and are lost among the meteors of fancy.

CHAP. III.

OBSERVATIONS ON THE CLIMATE.

THE Climate of St. Helena is pure and salubrious, and the temperature very moderate, for an island situated within the Torrid Zone. As its surface consists chiefly of rock, unsheltered with wood, which is exposed twice in the year to the perpendicular rays of the sun, and which is besides parched with long continued droughts, we might easily suppose that it must be subject to great heat: Yet this never rises to excess; and such is the peculiar felicity of the climate, that it is entirely exempted from all those severe agitations of Nature, which occasionally afflict and desolate so many other tropical islands.

From its great elevation and variety of surface, there is a diversity of cli-

mate at different heights; and at all seasons, the temperature of the high interior parts is from twelve to fifteen degrees below that of the valleys on the shore. The medium heat appears to be about 69, or probably a little lower; for the thermometer on the heights sometimes sinks under 54, and in JAMES's VALLEY it is said never to rise above 84. It rarely, and only for a short period, reaches this point in the valleys; while on the heights, it frequently sinks to 54. It is difficult, however, to ascertain these matters accurately, without an opportunity of long observation; which as the writer of this wanted, he was obliged to take some things from the report of the inhabitants, after comparing them with what he observed himself. In the months of July and August, while he stayed at ST. HELENA, the thermometer in JAMES's VALLEY never fell below 68, nor rose above 72. This

was

was the cool season; and on the interior heights, during the same period, the temperature was fifteen degrees lower. On comparing the result of these observations with the information received from some of the inhabitants, who had paid attention to this subject, it seems probable, that the whole range of the thermometer here, taken at different heights, and for the period of a year, may be from 52 to 84.

Within these limits of temperature, which are found as favourable to the health and longevity of the inhabitants, as they are well adapted to cherish the growth of the various productions of remote climates, the hills and valleys of ST. HELENA are preserved by the influence of the south-east trade wind. This continually blows over the island; and except for a short period, when the sun is vertical, blows with a steady and uniform current, overspreading the heights with

with light haze and vapour, and moderating the reflected heat of the subjacent valleys.

The land and sea breezes of tropical countries, arising from the variation which occurs every twenty-four hours in the temperature of the land and water, can have no place in an island, whose extent and influence are too inconsiderable to alter or modify the course of the trade wind, which keeps it so nearly attempered to the heat of the surrounding atmosphere and ocean. The refreshing effects of this steady gale are far more lasting and beneficial with respect to health, than those of the sea and land breezes of other warm countries: for even in situations, where these blow with the greatest regularity, they are preceded and followed by intervals of extreme closeness and sultriness; besides that, the wind blowing from the land, is not of equal salubrity with that which

which comes from the surface of the ocean.

There is no other wind so uniform and constant as that denominated the Trade. Deriving its motion from the diurnal revolution of the sun, and pervading a wide extent of sea, where it is not subject to disturbance from the influence of contiguous lands, it maintains an even and settled course, becoming lighter and stronger in different situations, without the intervention of storms or calms. In those parts of the ocean where it chiefly prevails, the weather is mild, serene, and settled. There are no heavy gales or hurricanes, seldom rain; and the ordinary phenomena of thunder and lightning rarely occur. The sky, which during the prevalence of close sultry heats was naked and torrid, or muffled up in a dead white haze, is now overspread with light fleecy clouds, which settling round the verge of the horizon, give a milder aspect to the

the rising and setting sun. Instead of those vast accumulations of clouds, which so frequently gather in a close and burning atmosphere, and burst forth in sudden and violent tempests, the season of the trade wind is only attended with small showers, light haze, and vapour. This settled and uniform state of things is somewhat disturbed by the approach of the sun to the zenith, which occasions temporary calms, during which, the clouds collect and give rise to storms, attended with violent and opposite gusts of wind. But the departure of the sun from the zenith restores the regular current of the trade wind; and the serene weather of these latitudes, which had only suffered a short interruption, returns to its accustomed uniformity. It is, however, only meant here, to speak of those parts remote from the equator, where the south east trade wind prevails.

Such are the general appearances of that

that benign and tranquil region, where, at a vast distance from every other land, ST. HELENA is descried in the solitude of the ocean. Being of an extent too inconsiderable to affect or modify the general course of the weather, which predominates in these latitudes, it enjoys the same settled serenity of climate, the same exemption from storms, and the same unvarying revolution of seasons, which prevail through all the interior parts of the Æthiopic. It has no other wind besides that of the Trade; it is never visited by hurricanes; and one may reside on it for several years, without observing the phenomena of thunder and lightning.

The principal inconvenience of this fine climate (for the most delightful retreats of Nature have their disadvantages) arises from a want of rain, which proves a great obstruction to the improvement of the soil, and not unfrequently a severe

severe scourge: For the rains, which are always too scanty here, have been sometimes so deficient, that a continued drought of three years has been known, which has destroyed the cattle, killed many of the trees, and withered every appearance of vegetation.

Rains are seldom wanting in those lands which are exposed to the influence of winds, blowing immediately from a great extent of sea; and in such situations, more inconvenience is often sustained from immoderately wet than from dry seasons. On this account, it seems at first surprising, that an island of such elevation, lying in a warm climate, where so much moisture is continually exhaled from the circumfluent ocean, should be parched with excessive drought. The circumstances of its situation, we should think, must prove a never-failing source of humidity; and that instead of being immoderately dry, it ought to be drenched

with

with excessive rain, as every wind which can blow upon it, must come charged with the vapours and exhalations of the Æthiopic. A mountainous rock, rising out of the waters to the height of near 2,700 feet, we might, *a priori*, imagine likely to become the centre of attraction to these exhalations, which, settling and condensing round its summit, would burst in frequent showers and storms. The fact, however, is otherwise; ST. HELENA presents the singular phenomenon of a land, embossomed in the ocean, and yet suffering as severely from drought as if it lay in the middle of a sandy desart.

Of this extraordinary dryness and deficiency of rain, occurring in a situation where so much moisture is continually exhaled, and where there are no parched or arid winds, if we inquire into the causes, we shall probably find them to be:

1. The great uniformity of the temperature,

perature, and the constancy of the trade wind.

2. The want of land and sea breezes, and of regular periodical winds.

3. The remoteness of other lands, and the inconsiderable size of the island itself.

4. The nakedness of its surface.

The last cause only, it will be observed, is within our controul, and admits of a remedy. If utility were the sole object of our inquiry, we ought, perhaps, to confine ourselves to the consideration of this cause alone, and of the best means of improving and cultivating ST. HELENA. Yet it will be a matter of curiosity to consider, what influence the other causes have; and in this way we may be better able judge, how far this influence is likely to be counteracted by any change which can be produced on the surface of the island itself.

But it will be difficult to explain, in what

what manner some of the preceding causes operate in preventing rain, without a reference to what takes place in other tropical climates; and as the writer is best acquainted with that of the peninsula of INDIA, and of the adjacent islands, he thinks that light may be thrown on this subject, if some circumstances in the climate of INDIA and that of ST. HELENA are set in comparison. He hopes that he need not make any apology here, for introducing some curious facts, which seem to him to illustrate this subject; and which he may not otherwise have an opportunity of delivering to the public.

An equable temperature, exempted from the extremes of heat and closeness, and the uniform prevalence of the same wind, seem not favourable to the production of rain, which in INDIA, and probably every where else within the tropics, is observed to take place, in circumstances exactly opposite: that is, from the heat rising oc-

casionally to great excess, and from the effect of periodical winds, which blow or succeed each other, in contrary directions. In the CARNATIC, which is remarkable for the equability of its temperature, five or six months sometimes pass without a shower; and during this period, the weather is serene, the winds steady and uniform; and so small is the difference between the temperature of the night and day, that there are no perceptible dews: for the atmosphere, in such a state, does not part with its latent moisture: Yet in this situation, extraordinary degrees of heat and closeness are always productive of occasional rain; and such is the invariable course of things, in one of the most regular climates in the world, that the temperature never rises to very great excess, without being followed by storms or showers. Very often, in the midst of a dead, close heat, while the sun strikes with insupportable intensity, a small dark cloud

cloud makes its appearance, which suddenly increasing, seems to convert the whole face of the sky into an overwhelming tempest of rain, the dispersion of which through a burning atmosphere, by the opposite gusts of wind, which then take place, is the great instrument employed by Nature, to mitigate the fervour of the torrid zone: For in this sultry region, the winds, at particular periods, acquire a degree of heat and dryness, which would shortly prove fatal to every species of life, if such storms did not seasonably arise to disarm them of their malignity. But the excess of heat never fails to bring with it the means of counteracting its increase and continuance; and it is observable, that after heavy storms, the temperature continues moderate for many days. The wind too, which before was so parched and arid, now blowing over a surface, recently

drenched with rain, becomes as mild and refreshing as the breeze of the ocean.

While Nature thus relieves the extraordinary heats of INDIA, by the gathering and dispersion of heavy storms, she mitigates and counteracts the sultriness, incident to some particular seasons, by the effects of frequent showers. It is surprizing how regular this course of things is, at some periods, especially in the close months of April and September, when it is not unusal for rains to occur every afternoon, if the heat and sultriness of the day have been considerable. Yet rains, at this season, never take place in a morning, and very rarely at night. The afternoon showers seem to be the effect of each day's heat, and proceed from clouds, which collect and discharge themselves within the visible horizon. For a considerable time after sun rise, no clouds are to be seen; but in the heat and closeness of the forenoon, small

small specks are observed to gather all round the lower sky, and not in the direction of any particular wind. These increase in size with the increasing heat of the day, and coalescing, form a continued belt or zone all round the horizon. This, in the afternoon or evening, blackens in different parts, and falls in rain. Sometimes the whole produces rain; though this, in general, is confined to particular quarters, from some one of which the lightning breaks forth, and the wind shortly after taking its direction from the same point, blows delightfully cool and refreshing. After sun-set, these clouds subside beneath the horizon; and the night is bright and starry. This succession of appearances frequently lasts for several weeks together, during which the mornings are always fair, the afternoons cloudy, the evenings showery, and the nights clear.

In these circumstances, the occasional

rains of INDIA usually take place. But such accidental storms and showers, arising out of extreme sultriness, and during the intermission of general winds, are seldom likely to occur in a situation where the temperature is so uniformly moderate, and where the Trade wind so rarely, and for so short a period, intermits its constancy. Yet, ST. HELENA is not entirely exempted from some occasional appearances of this sort; for the inhabitants observe, that once in ten, twelve, or fourteen years, they are visited by a storm, attended with thunder and lightning, and such a deluge of rain, that it does great mischief, by loosening and dislodging the impending rocks, and sweeping away many of the little farms and gardens, which are situated on the declivities. When this happens, it is in the hot season, and during some transient intermission of the Trade wind; and it is only on occasion of such storms, which recur

cur at very distant intervals, that there is any thunder and lightning. How rarely they have occurred, the state of the island seems a sufficient proof: For had such storms been frequent, and of long duration, all the lofty peaks and eminences, consisting of loose and broken rocks, intermixed with clays, which are fissured and friable, must have been levelled or washed away, and the whole probably reduced to an irregular mass of fragments and rubbish. Thus we observe in INDIA, that nothing but the durability of the granite has been able to resist the sweeping ravages of the monsoons.

By its want of regular land and sea breezes, ST. HELENA is excluded from another source of occasional rain, which the opposition of these winds is frequently observed to produce in warm climates. On the shores of INDIA, this circumstance is the more remarkable, as the sea and land breezes here occasion showers,

during the months of January, February, and March; a period of the year, when no rain falls at any considerable distance from the coast. These showers usually happen in the evening and morning, and seldom at any other time: For the wind from the sea, blowing cool in the evening on the exhalations and vapours of the land, condenses and converts them into rain; and the land breeze, when it blows chill towards the morning, in like manner produces showers on the surface of the ocean. The influence of these breezes in generating rain, is not confined to any particular season of the year; they are observed at all times, to have some effect in this way. During the prevalence of the westerly winds of COROMANDEL, which blow with such force and constancy from May till September, overspreading the atmosphere with accumulations of clouds and vapour, brought from the Western Ghauts and the coast of MA-

LABAR, the air is in a highly parched and arid state, and there is no rain, except during the intermission of these winds. At this period, when the westerly winds happen at any time to die away on the coast, and the sea breeze sets in from the opposite quarter, its first effects are to blacken and condense the clouds and vapours, and to convert them into rain. But further, it may frequently be observed, when the sky is perfectly serene and cloudless, that the sea breeze, blowing very cool from a clear horizon, suddenly fills the air with vapours and exhalations, which are evidently not brought from a distance, but evolved in the manner of a precipitate from an atmosphere uniformly clear.

It seems therefore evident, that a tropical island, by having no land and sea breezes, is shut out from one source of occasional rain. That ST. HELENA has no diurnal breezes of this kind cannot appear

pear extraordinary, when we consider its small extent, its mild temperature, and the constancy of the Trade wind.

While its exclusion from the effects of alternate land and sea breezes, necessarily deprives it of many occasional showers, the circumstance of its having the same wind the whole year round, instead of monsoons or periodical winds blowing from opposite points, seems to be the principal cause of its having no stated or regular rains. Over all the climates of the EAST INDIES, the general rains which occur, are connected with the change of the monsoons; and are only observed to take place in the different temperature of the air, which accompanies the setting in of these periodical winds. For example, on the coasts of MALABAR and CORO-MANDEL, the first access of the south west and north east winds immediately produces a milder temperature, and the atmosphere, which before was parched with

with drying winds and without a shower, is filled with watery exhalations, which are light at first, but gradually thicken and accumulate; and at last break in heavy and long continued rains. The same monsoon winds, which give occasion to this rain, continue to blow for a considerable time after it is over, and without producing a shower, any more than the Trade wind of ST. HELENA; and probably from the same cause:—the rainy monsoon having for a time established an equilibrium of temperature between the atmosphere of the ocean and land. But the heat very quickly increases, the winds become dry and parched, and the dews disappearing, the coasts of MALABAR and COROMANDEL are again languishing under the effects of excessive heat, when the access of their respective monsoons, blowing from the neighbouring ocean on a fervid atmosphere, restores the season of coolness and general rains.

It

It may be said, that the analogy of an extensive land, like that of INDIA, will not apply to a small island, whose surface and atmosphere can never acquire a degree of heat much exceeding that of the surrounding ocean; that therefore an opposition of monsoons could not here have the same effect as in INDIA, and that every wind which blows upon it, as it must needs come over a vast extent of sea, would have the same quality with respect to heat and moisture. It must, however, be remembered, that the INDIAN monsoons are not confined to the peninsula; they produce the same effects in the islands of the ASIATIC seas, where the period of their setting in is the season of the rains. That a wind blowing from any other point at ST. HELENA, besides the south east, would have the same quality and temperature, though it may seem probable, is however contrary to fact: For, during the short suspension of the Trade wind, a north-

north-west wind sometimes blows for a little while; and when this happens, it proves very disagreeable to the inhabitants, who complain of the effects of this wind, as depressing and unhealthy. It seems probable, that the feelings of the inhabitants, accustomed to the uniformity of the Trade wind, would be sensibly affected by any other which differed from it in heat or moisture. But the wind from the north-west, when it takes place, only lasts for a little time, and is soon overcome by the more permanent current of the south-east. It cannot therefore have any influence in producing general rains, which are observed to depend on the effect of winds that blow for a fixed period from the same quarter. That winds, differing in temperature, and succeeding each other from opposite points, will produce rain, independently of other circumstances, seems evident from the effects which have been stated to arise from the land and sea

breezes

breezes of INDIA. It is equally certain that monsoon winds, after their storms are exhausted, and when they have restored an uniformity of temperature and moisture to the regions through which they take their course, continue afterwards to blow for a considerable time, without occasioning any rain. This will perhaps, in some measure, explain the effects of the Trade wind at ST. HELENA, at those periods when its course is attended with showers. Although the rain here has no stated season, it most commonly takes place in the hottest or coolest time of the year; during which, the temperature of this little spot varies most considerably from that of the surrounding sea. In the former situation, the greater coolness of the Trade wind seems to evolve the latent moisture from its heated atmosphere. In the latter case, the coldness of the summits of the island condenses the exhalations, borne hither by this wind, as evidently

dently happens during July and August. Here, however, somewhat is no doubt to be ascribed to the effects of mechanical pressure and impulse: For the light vapours of the Trade wind being stopped in their course by the lofty summits of the island, are impelled and forced against each other, till they accumulate and acquire the density necessary to the formation of rain. It is observable of this rain, which falls during the cool season, that while on the interior mountains it is often considerable, it becomes lighter and lighter at every descent, till among the valleys on the shore, it dwindles into a fog, or drizzling mist. The lighter showers of this season are often confined altogether to the high cultivated parts, where they keep up a fine verdure, and feed the springs; while not a drop of rain falls on the naked hills which border on the sea, notwithstanding their elevation.

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Of the third cause which has been assigned for the unusual dryness of this climate, viz. the small size of the island, and its distance from other lands, very little need be said here: For it will be obvious, at first view, that an inconsiderable spot of land, encompassed with so wide an extent of water, can have but little influence on the temperature of its surrounding atmosphere, which is regulated by the invariable course of the Trade wind. It will be equally obvious, that by its remoteness from the shore of any continent, or of any other island, it cannot, like many of the islands in the Asiatic seas, participate in the rainy seasons of other countries.

Thus situated, and necessarily excluded by the circumstances of its situation from several sources of regular and occasional rain, the natural deficiency of moisture in in its climate is still further increased by the nakedness of its surface, which in its present

present bleak and unsheltered state, cannot have that effect in favouring the descent of showers and dews, which the elevation of the island might otherwise produce. The influence which wood, when growing in lofty situations, has upon clouds and exhalations, will not be questioned; and this seems less remarkable in cold than in warm climates, where a deficiency of rain is frequently observed to be connected with the heat and nakedness of the surface. The well-wooded tops of mountains preserve a coolness which stops and condenses the passing vapours; while the clouds are often observed to glide over the naked and heated surfaces of rocky summits without producing rain. Something of this kind we see take place in ST. HELENA, where the light showers of the cool season are chiefly confined to the wooded and cultivated parts of the interior, and the clouds and vapours which occasion these showers are observed to

glide over the naked hills on the shore without wetting them. From this circumstance, it seems probable, that the climate here has already undergone some change in respect of humidity; and that long after the formation of this volcanic island, its atmosphere was seldomer refreshed with showers than it is at present. Placed in a latitude where no extremes or sudden changes of temperature, dead calms, or variation of winds, give rise to any unusual aggregation of clouds, the mere elevation of the island must have had less influence on the vapours that passed over it, before the interior hills were covered with shrubs and plants. The first vegetation that arose on a burnt and scorified surface must necessarily have been very slow and difficult; yet, after the trees and shrubs (in whatever way they came here) had taken root among the rocks, they appear to have attracted a sufficiency of moisture, to promote their growth

growth and increase; for they had overspread some of the hills which are now quite naked. But since a settlement has been made here, their farther growth has been checked by the depredations of the goats that have been introduced, and by the inhabitants who have destroyed them for fire-wood. Had the island remained undiscovered, its indigenous gum trees and shrubs would probably have spread from the midland heights, where they first began to grow, over all the surrounding hills and valleys, to the margin of the sea. But while Nature was employed in subduing the crude volcanic mass, and gradually investing its surface with plants, the intrusion of mankind surprized her in one of her remotest recesses, before she completed the work which she had begun. What she has left deficient, as our possession has interrupted her operations, can only now be supplied by human care. It is unnecessary to enter more largely into this subject now, as

a farther opportunity will be afforded of touching upon it in another place; when the soil and productions of ST. HELENA, and the best means of improving it, come to be considered.

In describing this climate, it is necessary to speak more particularly of its salubrity; and in this respect, probably, no country in the world can exceed ST. HELENA. Removed from the extremes of heat and cold; exempted from all sudden changes of temperature, and freed from the inconvenience of an excessively humid or an immoderately dry atmosphere, (for though the rains are very scanty and deficient, the air is never parched with arid winds) it may easily be supposed, that such a situation must be favourable to health and longevity. We accordingly find, that the natives in general arrive at a good old age; and what is of still more consequence, that they escape from most of

of those diseases which oppress the inhabitants of less temperate and more variable climates. The sickly crews of ships that touch here, very shortly recover; and of the invalids, who are discharged from the different regiments of INDIA, and sent home as incurable and unfit for service, many during their stay at ST. HELENA recover so fast, that they again enlist here, and continue to enjoy good health. Of this the writer saw some remarkable instances, in men whom he had known in INDIA, and who were there reduced to such a state of weakness, or were afflicted with such diseases, that their recovery and even their existence in that climate seemed impossible: Yet these men had recovered completely, and appeared sufficiently strong and vigorous for any military duty. This fact deserves the attention of the EAST INDIA Company, as it shews how the military part of this settlement may be recruited with more con-

venience, and at far less expense, than by sending soldiers immediately from Europe. Besides, as the troops of the EAST INDIES, instead of knowing their duty, merely from the exercises of parades and field days, are trained up in a scene of perpetual warfare, and under the eye of officers, inured to the most arduous services, there would be a farther advantage in recruiting the military establishment of ST. HELENA, from the regiments of INDIA.

It is a matter of great importance to the fleets of the company to have such a convenient station, abounding with excellent water, and where the climate is so favourable to the sickly and convalescent. Here the ships' crews run no risk by sleeping on shore, or by any unguarded exposure to the night air; and the vessels themselves are never liable to suffer from storms or hurricanes. There are few places, indeed, which u-

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nite so many advantages as this volcanic rock, whose rude and naked aspect seems to promise so little. Its full value and importance, as a convenient station for the shipping of the company, will be yet more apparent, when we consider how few places there are (if any besides this) in the route to INDIA, or the Oriental seas, where vessels can, at all seasons, touch with safety, as they do here. In several of those islands, on whose surface Nature has so profusely lavished her bounties, malignant distempers are caught by remaining on shore, during night; and at particular seasons, by being merely exposed, during night, to the wind blowing from the land, while ships are passing near, or lying to at sea. It is with great propriety, therefore, that the Court of Directors have expressly enjoined the commanders of their ships not to touch at JOANNA, unless in cases of certified necessity; and that in such cases,

no part of the crew shall, on any account, be permitted to remain on shore during night. There is the same danger of sickness by touching at several other islands, and in many of those in the Oriental seas, at particular seasons. It is observable, that many of the most unhealthy of them are green and luxuriant to the water's edge; that they are generally nearer the equator than ST. HELENA, and consequently, subject to the storms, calms, and oppressive sultriness of that malignant region. It is not, however, to its distance from those equatorial latitudes, where Nature relieves the dead calms and sickly intemperature of the climate by elemental commotion, that ST. HELENA owes its exemption from storms, its unruffled atmosphere, and perpetual salubrity. Nor can its freedom from noxious damps and vapours be ascribed to the nakedness of its surface. These effects more probably

probably arise from the constant prevalence of the Trade wind, blowing over a wide tract of sea, where there are no neighbouring lands to disturb or interrupt its course.

In tropical countries, the open plains and the sea shore are in general the only situations which are not sickly. The neighbourhood of hills is found unhealthy; and Europeans can seldom live in confined valleys, which are always infested with noxious damps. Nothing therefcre can be a stronger proof of the salubrity of ST. HELENA, than the healthfulness of those confined situations, where the inhabitants have fixed their dwellings. Most of their houses are in the bottoms of very narrow valleys, or rather chasms, shut up with lofty hills and steep precipices. Such situations on the island of JAVA, or even on the more salubrious Continent of INDIA, would be altogether uninhabitable. What

makes

makes the salubrity of these confined places the more remarkable is, that though this climate is in general very dry, and hardly ever refreshed with a sufficiency of rain, it is, however, at particular seasons, very damp; and the mornings and evenings are very raw and chill. Yet neither the natives nor the recent settlers from EUROPE ever experience any farther inconvenience from this, than that, at such periods, they are rather more subject than usual to colds and rheumatisms. But they have no malignant or contagious fevers; and from many of the severest diseases of other countries, they are wholly exempted. One cruel distemper, which, in its natural and unmitigated course, is perhaps the most deadly pest that ever lighted upon earth, has hitherto not found its way to ST. HELENA; and as its ravages in EUROPE seem now about to disappear altogether, by one of the happiest discoveries recorded

corded in the Annals of Mankind, it is probable that the natives of this fortunate isle may never know the small-pox, except from description. That the contagion of this disease has hitherto not reached them, will naturally be attributed to the remoteness of their situation. But it can be ascribed to the benignity of the climate alone, that it exempts part of the brute creation from one of its most severe and irremediable sufferings: It is a singular fact, that the dog here has never been affected with the hydrophobia.

It has been observed that the heat of this climate never rises to great excess, and that the temperature is always mild and agreeable. This must be understood of the island in general; for in some of the deep and narrow valleys, the reverberation from the naked rocks, at one season, renders the temperature close

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and uncomfortable: Yet the thermometer here never rises above 84, and rarely reaches that extreme. We might easily suppose, that the heat in such circumstances ought to rise much higher, from the power of a clear and vertical sun, increased by reflection from the surrounding rocks. On the heights and declivities, the temperature is always pleasant to the feelings; and from the constant purity and agitation of the atmosphere, it is probable, that a much greater degree of heat would not, in this situation, be felt oppressive. To make this matter more evident, it is to be observed, that the degree of absolute heat existing in the atmosphere, as it is measured by the thermometer, forms no criterion of the sensation of heat which is felt by the human body. This last is altogether a relative feeling, depending on the particular state of the air, and on the circumstances of the habit

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in which it is excited. This fact, which is conformable to universal experience, and may easily be verified, especially by those who live within the tropics, was first, as far as the writer knows, taken notice of by the historian of ANSON's Voyage: and although that able and eloquent author has been led into some oversights concerning it, he has, however, stated and explained the general principle with his accustomed clearness and energy. He observes justly, (page 256) that as the presence and perpetual succession of fresh air is necessary to our respiration, so there is a species of tainted and stagnated air, often produced by the continuance of great heats, which never fails to excite in us the idea of sultriness and suffocating warmth, much beyond what the mere heat of the air alone, supposing it pure and agitated, would occasion. Hence continues he, it is evident that the mere inspection of the

thermometer will never determine the heat which the human body feels from this cause. So far, we must entirely agree with this author, whose admirable narrative no person who has derived from it the pleasure which the writer of this has done, would willingly depreciate by trivial objections. But when this narrator affirms that the equability and continuance of the tropical heats render them, with respect to the human body, more intense and insufferable than the occasional heats of higher latitudes, and that the same degree of absolute heat in most places between the tropics, is felt more troublesome and uneasy than in the temperate zone, he appears to be completely mistaken, both in his facts and in his reasoning: For, in the first place, the equability of the tropical heats is the very circumstance which renders them more tolerable than they otherwise would be, from that power in the constitution, which, however irksome

irksome to our feelings the first impressions of extraordinary heat may prove, easily accommodates itself to a new situation. People after their arrival in warm climates find, that the disagreeable sensations of heat shortly wear off; and that as long as they continue to enjoy health, they suffer no inconvenience or uneasiness from the ordinary temperature of the climate, whatever uneasiness its unusual heats, and the closeness of a warm atmosphere, may sometimes occasion. But, in the next place, the same degree of absolute heat, within the tropics, is so far from being more oppressive than it is in higher latitudes, that the contrary is actually the case. The heats of GREAT BRITAIN, for instance, are in proportion to their degree, much more sultry and oppressive than those of the EAST INDIES. This will not be disputed by any one who has had the experience of both; for it is not unusual to hear persons complaining of

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the heat of ENGLAND, when the thermometer is little above 76, who have passed twenty years in a climate whose medium temperature is nearly ten degrees higher, and where the thermometer in the shade, during a great part of the year, is above 90.

But the author already quoted, assuming it as a fact, that the same degree of absolute heat is attended with greater oppression and sultriness within the tropics than in the higher latitudes, goes on to account for it in the following manner :—

" The equability and duration of the tro-
" pical heats, contribute to impregnate
" the air with a multitude of steams and
" vapours from the soil and water, and
" these being many of them of an im-
" pure and noxious kind, and being not
" easily removed by reason of the regu-
" larity of the winds in those parts, which
" only shift the exhalations from place to
" place, without dispersing them, the at-
" mosphere

" mosphere is, by this means, rendered " less proper for respiration, and man- " kind are consequently affected with what " they stile a most intense and stifling " heat: whereas, in the higher latitudes, " those vapours are probably raised in " smaller quantities, and the irregularity " and violence of the winds frequently " disperse them; so that in, general, the " air being pure and less stagnant, the " same degree of absolute heat is not at- " tended with that uneasy and suffocating " sensation." Page 257.

It seems surprising, that a writer so profound and acute as Mr. ROBINS, should have been inadvertently betrayed into this view of things, which is so contrary to fact and experience. A mind so enlightened as his, could hardly have fallen into this error, if, previously to the writing of his narrative, he had had an opportunity of visiting the scenes which he describes. The very reverse of what

he supposes, actually takes place: For the uniformity and duration of the tropical heats, instead of filling the air with noxious steams and vapours, contribute more than any thing else to volatilize and disperse them; and these heats, with the more constant agency of the winds, which they never fail to excite, produce a greater lightness and purity in the state of the atmosphere, than takes place during the warm weather of higher latitudes. This seems to be the true reason, why a much smaller degree of absolute heat is felt more oppressive in the latter situation than in the former. From what cause besides the greater purity and lightness of the air, is a person able to live and breathe with ease, in a temperature equal to that of the human blood? How does it happen that some of the hottest countries within the torrid zone are uniformly healthful; while the long continued heats of higher latitudes seldom fail to generate distempers?

pers? How comes it in tropical climates, that the exhalations from crowded hospitals, and from all receptacles of stench and corruption, are observed to taint the surrounding air less perceptibly with any offensive effluvia than ever happens in similar situations, during the warm weather in northern latitudes? All this can only arise from the purifying effects of extreme and unremitting heat, and the constancy of the winds which it excites. If the heat of those climates which are exposed to the perpendicular rays of the sun, were not productive of greater purity, lightness, and agitation, in the state of the atmosphere, no human being could ever have existed in the torrid zone. Were the conclusions of the writer of ANSON's Voyage well founded, we might easily suppose with the ancients, that this region of the globe must be uninhabitable: For a heat that is continually impregnating the air with noxious steams and vapours,

which the winds, from their regularity, can only shift from place to place, without dispersing, must, in its inevitable consequences, produce an insupportable and pestilent climate.

The desire of correcting an important error, has perhaps led the writer further than the mere view of the climate of ST. HELENA, where the heat is never excessive, seemed to require: Yet what has been said may serve to explain, why the temperature here is always so healthful and agreeable, notwithstanding the power of the vertical sun, aided by the reflection of his rays from a rocky surface.

CHAP. IV.

OF THE INDIGENOUS AND EXOTIC PRODUCTIONS, AND OF THE MEANS OF IMPROVING THE ISLAND.

WHEN ST. HELENA was first discovered, several shrubs and plants were found growing upon it; some of them said, by Mr. FORSTER and other botanists who have visited this island, to be of a new and peculiar character. In what manner these plants came here, however fruitless our conjectures may be, it is natural to inquire. Shut up in a remote and solitary recess of the ocean, where the phænomena attending its formation were concealed from human curiosity, we cannot easily conceive whence this island could derive the seeds of vegetables, after it became fit to receive and nourish them. During the period of its combustion,

which has so visibly affected every part of its composition, it could not be the abode either of plants or of animals; and it will not be supposed, that any latent germ of life could be preserved, unhurt, among materials which flowed from the craters of volcanos. How long, and with what vehemence, these volcanos burned, we may conjecture, but cannot know. The vast depth of some of the basaltic beds, which, from the homogeneity of their structure, seem each to have been the effect of a single eruption, and the numerous distinct layers composing the hills, thrown out, perhaps, at very distant periods of time from each other, would seem to argue the great vehemence and protracted duration of those fires which produced them. When, at last, the subterranean sources which fed these successive eruptions were finally exhausted, and had left the volcanized mass to the temperature of the surrounding air and water,

many

many years must necessarily have passed away, before a soil could be formed on its surface, fitted for the growth and nourishment of plants. After the cessation of its fires, being no longer an object of terror to the tenants of the ocean, it would naturally become the haunt of the sea tortoise, and of some oceanic birds. But were these likely to deposit on it the seeds of vegetables? No bird, peculiar to any land, had found its way to this spot; or if any were driven thither casually by storms, they must have perished from want of food, as no kind of land fowl was found upon it, at the time of its discovery. Are we in these circumstances to suppose, that some unfortunate bird, which had fed upon the seeds of plants in GUINEA or BENGUELA, having afterwards lost its way, was forced by tempests on this inhospitable rock, where it perished; and though, like the Phœnix, it could not renovate its kind,

deposited the first germ of vegetation with its ashes? But it may be doubted, how far any bird, which Nature, having destined it for a tenant of the land, has only provided with strength of wing sufficient for shorter excursions, could have supported so long a flight, without dropping from fatigue. Though birds of passage may travel farther, they do not accomplish their migration by a single flight, nor without the means of resting on their journey.

The only permanent winds of these latitudes blow from the coast of AFRICA, which is the nearest land; whence it may therefore be supposed, that the seeds of vegetables may have been carried by these winds and by currents. But have lands so remote been known to impart their productions to each other, by the agency of winds and currents? Several of the native shrubs, which grow about the CAPE OF GOOD HOPE and the western shore of

of AFRICA, have been transplanted to ST. HELENA, since it became a settlement, and have thriven and multiplied spontaneously: Yet none of these had been borne thither by the effects of easterly winds and currents; and of some of the indigenous trees and shrubs, which grew upon this island at the time of its discovery, none, it is said, of the same kind, have been found on the opposite parts of AFRICA. This increases our amazement and difficulty: Yet in this amazement and difficulty we must be contented to remain, till we shall be able to remove the veil, which covers the mysterious origin of every thing around us.

If we are not satisfied to take things as we find them, but must needs indulge in speculations about their causes and origin, we may here conjecture, that some seeds of plants, accidentally floating on the surface of the sea, were picked up by oceanic birds, entangled among their

their food; and in this way, deposited on those summits, where they appear first to have taken root. For it must be remembered, that the progress of vegetation here, has not been from the shore to the inland parts; but exactly the reverse. It has begun in the loftiest summits, and descended only a little way downwards,—all the exterior parts that border on the sea remaining to this day, a naked and scorified crust. So that any vegetable seed thrown on the coast by winds and currents, must, before it could find a soil to take root in, have been elevated, some way or other, nearly 2,700 feet above the level of the ocean. But allowing all this to have happened, and that its having happened is a proof of the all-sufficient means of Nature to impart and distribute her productions; yet, if among these indigenous plants, some are found of a very peculiar character, what are we to conclude from this? Are we to assist the

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agency of birds, winds, and currents with the more pliant wings of imagination, and suppose that these plants are the offspring and relicks of some more ancient and contiguous land, which no longer exists? Or that ST. HELENA, just cooled from the fervor of its volcanic fires, had received a few scattered seeds of Trees and Shrubs from the celebrated ATLANTIS of PLATO, before its submersion? Such extravagant and fanciful suppositions, if none better can be substituted in their room, will only serve to shew, how inadequate any conclusions must be, which we can form on such subjects, and how vain and fruitless our attempts to penetrate that region of darkness and perplexity, which every where confines the visible sphere of our observation!

Of the indigenous Shrubs and Trees, some of which are said to be peculiar to this island, there are only about nine or ten

ten different species. One of the most curious is called by the inhabitants the Tree Fern. It grows to the height of 20 or 25 feet, and bears a very close resemblance to the Fern. Nature frequently imitates in her larger productions the exact models which she has chosen in her minuter works, of which the Tree Fern of ST. HELENA is a striking example: for this is literally a Fern of the size of an ordinary tree. There is another tree, which the inhabitants call the Cabbage Tree, from its supposed resemblance to a cabbage, and two or three Gum Trees, which yield a pure gum like gum arabic. One of these seems to be the same as the TUMACARRY of the coast of COROMANDEL. But the others bear no resemblance to the Mimosa, that yields the gum arabic. There is also a shrub, the leaves of which, when bruised, yield an highly aromatic flavour; of this the goats are particularly fond: and there is a

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plant which, from the texture of its rind and wood, is called the String Wood Tree. To these may be added, the Ebony and Aloe, which are also indigenous; and a shrub said to resemble the Box, which the writer did not see. The Aloe plants were particularly tall and vigorous, and most of them were in flower. These were the only trees and shrubs found growing on the island, at the time of its discovery. Of the smaller vegetable productions, the principal indigenous ones were, besides some species of grasses, Endive, Purslane, Samphire, wild Celery, and Water Cresses; of which, the Samphire and Purslane are still the most abundant, and are the only plants that are met with in the barren valleys and hills that border on the sea, where they are found growing in the hollows and crevices of the rocks. Yet no vegetation is seen on these, at a distance, except in a very few places, where there have been water courses,

courses, which appear quite green from the wild celery and water cresses, which chiefly grow in these situations.

The native trees and shrubs were much more abundant formerly than they are at present. As a proof of this, permission is recorded in the council-books to have been granted, occasionally, to the inhabitants to cut wood in situations where there are now no shrubs or trees remaining. They have been cut down for fire-wood and other domestic purposes; and the goats, which are very numerous, have destroyed many of them. From these causes, they would probably have disappeared altogether, but that the inhabitants of late have paid some attention to their preservation. Col. Robson, the late Deputy Governor, with a laudable zeal for the interest of his employers, and the benefit and advantage of a spot, where the want of wood is one of the greatest inconveniences, made very extensive plantations

tations of those native trees, on the grounds which lye to the south east. The trees which COL. ROBSON planted, were chiefly those that yield the gums, and thence denominated gum wood trees. In this part of the island, which is more open and exposed than any other, the writer observed a circumstance which shews with what sharpness the Trade wind blows here. Several of the INDIAN fruit trees, particularly the Pumple Mose were nipt and withered, where they rose above the walls which sheltered them from the bleakness of the Trade wind. But it was only in this particular part of the island, which is bleak and unsheltered, that any appearances of this kind were observed. In all situations which are sheltered by the surrounding hills; and it is difficult here to find any situation that wants this shelter, the fruit trees of INDIA seem likely enough to thrive. Indeed, the productions of most climates have

have been tried here with success. At the garden of Col. Brooke, the late Governor, who paid great attention to the interest and welfare of the island, and studied to enrich it with many valuable foreign plants, the writer observed, within a small compass, a great variety of trees and shrubs, all thriving luxuriantly, and which had been brought together from the remotest parts of the world, and from climates the most opposite:—from Britain, Africa, China, India, New Zealand, New South Wales, and America. One was particularly struck with the vigorous growth of the Oak, Chesnut, Ilex, Bamboo, Palm, English Weeping Willow, Cypress, Orange and Apple Trees, and Plantain. With these were intermixed the Strawberry, Coffee Plant, Vine, Olive Tree, and very large Aloes in flower; together with the Heath and Broom peculiar to the southern parts of Africa, and

and some beautiful Mimosæ, from Botany Bay. The summits of the hills around this spot, were overspread with Furze and Bramble, intermixed with the Myrtle and Scotch Fir. The Furze was introduced about eighty years ago; and many of the heights are now overspread with them. Here they grow, intermixed with the Gum Wood Trees, and other indigenous plants, and seem to thrive as well. The Scotch Firs were very vigorous; and the Myrtle here grows to an unusual height.

The Apple Tree is said to yield fruit twice a year. The apples are very fine, and some of them exceedingly large. An inhabitant asserted, that he had seen one that measured 14 inches round. The Cherry Tree and Pear Tree have been tried, but do not thrive; neither does the Gooseberry. The Plantain does not answer, except in the low and sheltered grounds. The Peach used to be the

most abundant fruit in the island, but there are few of these now remaining. This valuable fruit tree, which was introduced here many years ago, throve and multiplied amazingly, in almost every situation, propagating itself like an indigenous plant. Wherever a seed of it happened to be dropped, even in the crevice of a rock, it sprung up into a flourishing tree; and so abundant was the fruit, that it was customary to feed the hogs with peaches. But about thirty years ago, an insect, imported either from the MAURITIUS, or from the CAPE OF GOOD HOPE, along with the Constantia Grape, has destroyed almost all the peach trees, and no means have hitherto been found of checking its ravages. It settles on the trunk of the tree, which becomes covered with a white crust, and shortly after withers and dies. The inhabitants have tried all methods of destroying it, but hitherto without effect. They have

have smoked the trees, scraped off the white crust, and washed the stem with a decoction of tobacco, &c. But none of these methods have answered. This destructive insect is so minute, that it is not visible to the naked eye It attacks some other trees, particularly the native Gum Wood Trees and the Mulberry; but the trunk of the Peach seems to be its favourite lodgement. It is a curious circumstance, that this insect, which, according to the testimony and belief of the inhabitants, was imported with the Constantia Vine from the CAPE OF GOOD HOPE, or with some shrubs from MAURITIUS, should not now settle on any of the plants, on which it is supposed to have been brought hither. Its ravages are almost exclusively confined to the Peach, the Mulberry, and one or two of the native island shrubs. An old inhabitant, describing and lamenting the ravages it had made, could not forbear crying out, the

tears almost starting into his eyes, " We " would with pleasure have given up to " it half the trees of the place, had it " only spared our peaches, which we " valued so much." But this inexorable little foe will listen to no such composition; and having hitherto resisted every offensive means employed against it, is likely to continue its progress, till it has completely deprived the inhabitants of this wholesome and delicious fruit. The circumstance is the more vexatious, as no other fruit tree prospered so well, and with so little trouble as the peach. It grew readily in every part of the island; though in the cultivation of several other fruit trees, the inhabitants have had some difficulty, from the want of rain, the rocky nature of the soil, and, in exposed situations, from the bleakness of the Trade wind.

It has been already mentioned, that the valleys near the sea are almost wholly

wholly barren, and hardly shew the slightest trace of vegetation, any more than the black volcanic hills which divide them. This unfruitfulness of the valleys is ascribed by the inhabitants to the effects of a saline impregnation, derived probably from the neighbouring hills, where, among the hollows of the rocks, considerable quantities of salt are formed, and washed down by the waters. It appears to be principally common salt, deposited and chrystallized from the exhalations of the surrounding ocean. This saline impregnation does not, however, prevent fertility, in places where any cultivation has been attempted. In JAMES'S VALLEY, where some trouble has been taken with the soil, both native and exotic plants thrive exceedingly well; and in the next valley, RUPERTS', where nothing has been hitherto done in the way of improvement, there is a Palm Tree of a growth as tall and vi-

gorous as the ordinary palms of INDIA. Where one palm prospers so well, others certainly may be made to grow; and these trees seem likely to thrive best in the valleys near the sea, as it is in such situations chiefly that the Palm Tree is found within the tropics.

Notwithstanding the disadvantages to which ST. HELENA is subject, from the scantiness of its rains, its rocky soil, and the unfavourable influence of the Trade wind on some particular plants, there is, perhaps, no spot on the face of the globe better adapted, in point of temperature, to unite the productions of most climates; and we have in fact seen that many plants at least, peculiar to warm as well as to cold countries, thrive here. Where we already find the furze and the myrtle growing together, intermixed with many Indian trees, and with the oak, the chesnut and Scotch fir, and several plants from NEW HOLLAND, AFRICA,

FRICA, and AMERICA, there is surely some encouragement held out, to persevere in improving the value of the island, by extending and multiplying the only sources of wealth and convenience which it seems capable of yielding. The improvements, hitherto made, are very partial, and almost wholly confined to a few small spots around the garden-houses of the inhabitants, which are at a considerable diſtance from each other. All the intermediate grounds are entirely neglected. The whole surface, in its present state, when viewed from any commanding eminence, discovers, like a miniature of ARABIA, only a few inconsiderable spots of verdure, scattered among naked rocks and barren clays; and it is not every where that the eye is relieved with this grateful prospect of verdure. In descending from the interior heights, vegetation all around becomes more and more partial, and dis-

appears altogether, among the hills and valleys on the shore.

From this rude and barren state of the island in general, we are the more surprized to observe the summits of the interior hills, and the hollows between them, all covered with the most luxuriant vegetation; and this becomes the more striking, as the approach to these fine spots of verdure, which are not seen till we come close upon them, is so naked and dreary. These heights appear to have been the first places which were overspread with the native shrubs and plants; and these still grow here, intermixed with many exotics, which seem to thrive equally well; so that it is difficult to say, whether the native island shrubs, or the furze, myrtle, Scotch fir, the mimosæ of NEW HOLLAND, or the heath and broom of AFRICA, prosper best. On these spots, the beauty of which is probably heightened by the contrast

trast of surrounding barrenness, we have an opportunity of observing what the unassisted efforts of the climate, and of a highly productive soil, are capable of effecting.

Of this original and spontaneous fertility, almost exclusively confined to the loftiest summits and adjoining hollows, while the surrounding hills and valleys are so naked and barren, the reason will naturally be inquired. At first sight one might suppose, that these heights are the remains of some primogenial land, which have been left untouched by the volcanic eruptions, whose lava and cinders have formed the surrounding parts of the island. But the difficulties attending this supposition, have already been stated; and it has been shewn, that these eminences are of a similar structure and disposition with the hills on the coast, only that there is here a greater proportion of clay, and that the rocks are in a more

a more decayed and friable state. Here too, the clays, which are of a bright red, are tinged with a black mould, from the decay of the native plants which have long flourished on these heights. To this difference of soil, but chiefly to their great elevation, which secures to them a more constant supply of moisture, the fertility of those parts is probably owing; for they seldom suffer from the parching and long continued droughts, which affect the lower situations. They are generally inveloped in light clouds and vapour; and it often rains here while there is no rain in any other part of the island. The effects produced on the clouds, at different degrees of elevation, have already been noticed; and it has been mentioned, that while in the valleys on the shore there is only a fog that does not wet; yet, as we ascend higher, this becomes a drizzling mist; and on the tops of the inland hills it is a thick rain. Here too

the

the temperature is from ten to fifteen degrees lower than that in the valleys; and this greater degree of moisture and coolness, while it feeds the springs from which all the streamlets that water the island are derived, at the same time renders those elevated situations so uncommonly fertile and exuberant in their productions. All these circumstances must have been favourable to the growth and increase of the few native plants, which in whatever way their seeds were conveyed hither, appear first to have taken root and flourished only in the highest situations. That they had spread a considerable way over the hills to the northward, there is, as has already been stated, the evidence of public records; from which it appears, that permission had formerly been granted, to cut wood in places where there is none now remaining. Had things here been left to the spontaneous efforts of Nature, the native plants would

would probably in time have overspread the whole surface of the island; and that they had made so small a progress at the period of its discovery, may seem to argue a more recent cessation of the volcanic fires, than other appearances will justify. But however this may be, and whatever progress the native shrubs might have made, had they been left in the undisturbed repose of Nature, they are not now likely to spread and increase any further, as they are exposed to the depredations of the goats, and are also cut down for fire-wood, wherever they spring up spontaneously. The efforts of Nature in cloathing a rugged, volcanic surface, must be slow and feeble at the beginning, even when they meet with no external interruption; and in the circumstances which have been mentioned, unless these efforts are seconded by the care of the inhabitants, ST. HELENA is likely to remain long in its present state of nakedness;

ness; and those black volcanic cliffs, where only a few plants of Samphire and Purslane have hitherto found their way, may continue for ages, to present the same aspect of desolation to the mariner.

Yet it would be hard to suppose, that Nature, after surmounting so many obstacles in establishing the first growth of plants, in a situation so remote and unconnected, had doomed the rugged volcanic hills on the shore, to a state of perpetual destitution and sterility. Their present nakedness cannot be considered as without a remedy, in a climate which has been found so favourable to many of the productions of hot as well as of cold countries; and the deficiency of wood here might certainly be supplied, by encouraging and protecting the growth of the indigenous plants, and by introducing such trees and shrubs, as thriving in similar situations in other countries, are therefore likely to prosper here.

But

But though several trials which have been made, with different sorts of exotics, have completely succeeded, they have hitherto tended rather to ornament than utility; and plantation has not yet extended beyond the decoration and improvement of the summer dwellings of the inhabitants; while all the intermediate grounds, both hills and valleys, as if they were left as a foil for setting off the verdant spots by their gloomy and sullen aspect, are not only neglected, but the shrubs which formerly grew upon some of them, have been wholly eradicated.

The only attempt towards a more general improvement of the island was made about seventeen years ago, when some of the inhabitants formed themselves into a society for this laudable purpose. The subscribers to this scheme were to contribute, according to their circumstances, towards raising a fund; the object of which,

which, was to excite a spirit of industry, and an ardour for botanical experiments. For by the distribution of small pecuniary rewards, and honorary premiums, it was their purpose to advance and encourage planting, gardening, farming, and every sort of improvement, of which the grounds are capable. This benevolent scheme, if the confined and scanty means of its promoters had enabled them to execute their intentions, would have been attended with very beneficial consequences to the island. But the inhabitants are not sufficiently numerous and wealthy, to carry on extensive plans of improvement; and (though the society entered on their undertaking with the zeal and ardour natural to a new Institution) we cannot blame them, if the experience of many difficulties, and the want of adequate funds, shortly abated their efforts. In the mean time, it may be satisfactory to record the general result of some of their earliest experiments,

periments, which having been successful, as far as they were carried, hold out the greater encouragement to attempt farther improvements.

By the direction of the Society, three spots of ground, differing in their situation and climate, were very properly selected for the trial of such exotics as they might have an opportunity of procuring. One piece of ground was in JAMES'S VALLEY, where the average temperature is from 74 to 76, and where the heat is above 80 in the summer months. Another was at the country government house, where the mean temperature is about 66. A third was on one of the summits of the island called HIGH PEAK, where the thermometer sinks twelve or fourteen degrees lower. All this variety of temperature, arising from the different degrees of elevation, occurs within the space of three miles. The ground pitched upon in JAMES'S VALLEY, consisting of about

two

two acres, was found to be well adapted to the culture of all Oriental plants, the Mango, Mangosteen, Jumbo Malac, Coffee, Plantain, &c. So favourable was the climate here to these, and a variety of other productions, that this place, which had only been a heap of broken rocks and stones, was, in the short period of twelve or fourteen months, covered with a great variety of shrubs and trees; besides yielding a plentiful supply of roots and greens for the hospital. The plantation at the GOVERNMENT GARDEN was still more extensive and various, as the climate here was found to favour the productions of almost all other countries; and that on HIGH PEAK seemed equally well adapted to the succulent vegetables, and the hardy trees and shrubs of northern regions.

In their early labours, the Society was greatly assisted by Dr. JAMES ANDERSON, the present Physician-General of FORT ST. GEORGE, a man whose ardent and

active benevolence, ever ready to engage in whatever concerns the welfare and happiness of mankind, will be long remembered with affection and gratitude in that part of the world, where, during a residence of more than forty years, he has been a constant benefactor. By the care and assiduity of this excellent person, many rooted plants and seeds of the most useful trees and shrubs, which grow in the EAST INDIES, were forwarded by the Indiamen to ST. HELENA; and had the means of the Society enabled them to keep pace with the zeal and ardour of their coadjutor, this island, besides deriving an increase of accommodation and convenience from the growth of its plantations, would shortly have become the conservatory of many of the most valuable productions in the world.

An island enjoying so benign and salubrious a climate, situated in the route of vessels

vessels returning from INDIA, at a convenient distance too between GREAT BRITAIN and her eaſtern poſſeſſions, and in one of those happy latitudes, where the ships that touch for refreshment are at no season liable to injury from storms, nor their crews from sickness, is certainly a valuable acquisition. In a military view, likewise, it may be regarded as a post of some consequence; and as it is in most places impregnable by Nature, and in others well fortified by art, nothing seems wanting to complete its value and importance, except the addition of wood, and a more extended cultivation of such vegetables as the rocky nature of its surface is capable of yielding.

The grounds certainly are not adapted to the cultivation of any grain; and if they even afforded opportunities of tillage, the crops must be extremely uncertain and precarious, from the frequent droughts that prevail. The inhabitants

are of course obliged to depend on very remote countries for their indispensable supplies of bread-corn, and which the casualties of shipwreck, or the accidents of European warfare, may occasionally intercept. To secure themselves against the consequences of such events, which would be the more dreadful in their situation, as they are placed so far out of the reach of immediate assistance, the great object ought to be, the raising of such trees and plants as will endure the dryness of the climate, and best supply the want of bread-corn. They have already the Potatoe, the Yam, and the Plantain. The two former thrive well, and the last succeeds in some situations. But the various sorts of Palms, which would afford a more certain resource, because they are less subject to suffer from drought, seem wholly neglected. Yet there can be but little doubt that they would grow in the valleys. It is not intended here to assert, that

that the produce of these trees, whether consisting of pulp, kernel, or pith, is, in its crude and unprepared state, a light and proper nourishment for an European constitution. It certainly is not. Yet it would for a time support life; and people would gladly resort to it in the extremity of hunger. The question here is not about the choice of food; it only regards the last means of subsistence in the hour of calamity; and if, from the effect of unpropitious seasons, and of disappointment in the arrival of expected supplies, a real scarcity were to be felt here, where could any resource so certain be found as in the fruit and produce of the Palm? for several sorts of these trees are capable of enduring great extremities of drought. A tropical island, where no corn is produced, and where the smaller vegetables are liable to perish from the failure of rain, seems, in wanting palm trees, to want its best ornament, and most independent re-

source, in the exigence of famine. As these trees are besides subservient to so many useful purposes, and minister more than any other to the immediate convenience and accommodation of man, it seems surprizing that their culture hitherto has been so much neglected.

Were we to follow the footsteps of Nature, who in her various allotments and distributions does nothing in vain, we should consider the introduction of the Palm, as the first object in the improvement of St. Helena: For this is the most remarkable production of those islands and continental shores, which are situated within the torrid zone. Here this beautiful and useful tree is spread in such abundance and variety, that its appearance constitutes the peculiar and distinguishing feature of the lands where it grows; and its representation may be considered as the most natural symbol of tropical climates. It is unquestionably the

the beſt gift which the beneficent Author of Nature hath bestowed on the inhabitants of those sultry regions. Wonderfully adapted to the purposes of simple life, it yields without the labour of preparation that food and exhilarating beverage, which in auſterer climates, can only be obtained with toil and care. Its broad and spreading foliage, of the most refreshing verdure, cools and shelters the thirsty soil where it grows, while it is easily fashioned into a light pavilion, which protects the natives from the sun and rain. Of the numerous class of palms, though there are several more beautiful, there is none so eminently useful as the Cocoa-nut. Man, in a state of nature, wants but little that is not supplied by this admirable tree, which is adapted to purposes so various and manifold, that the HINDOOS, who celebrate its uses in their songs and verses, regard it with wonder and veneration as a most

lively and affecting example of the beneficence of Providence.

The same wise and benevolent design, which has so amply provided for the convenience and accommodation of the southern islands, and shores of continents, by the easy and abundant growth of this useful tree, has still further extended the benefit of this provision, by making its propagation from one land to another depend, in many instances, on the operation of natural causes. For these trees growing near the sea, and frequently over-hanging the surf, their fruit when ripe drops into the water, and is often carried to a great distance by winds and currents; and being, in this way, thrown upon the sandy shore of some remote island, it strikes root. In this manner Palms have sprung up in some uninhabited isles, where no trees of the kind grew at so recent a period as that of the discovery of India by the route of the Cape of Good Hope.

HOPE. And here the writer cannot avoid mentioning a curious fact, regarding the manner in which a new species of Cocoa-nut was first introduced, on the west coast of the peninsula of INDIA. The natives of TRAVANCORE had long observed that strong westerly winds blew upon their shore great quantities of cocoa-nuts, which, being of a peculiar form, they called the sea cocoa-nut, supposing that it grew at the bottom of the sea; and from their ignorance of geography, not knowing where else it could be produced. According to their accounts, many ages past before they became sensible of the advantage of attending to the culture of this plant. It was left to the spontaneous efforts of Nature, and sprung up here and there among the sand. It is now however considered as one of their most useful trees; and is, in some respects, reckoned more valuable than the common cocoa-nut. It probably came from the

SECHELLES,

SECHELLES, or some of the remote MALDIVES, where the same species is still found.

From what has been stated, it will be evident, that the spontaneous growth and propagation of the cocoa-nut must be principally confined to low islands, and to the flat and maritime parts of continental lands. In these places, it seems to thrive best. When transplanted to high situations remote from the sea, although it grows, it does not prosper so well. On this account, those valleys of ST. HELENA, which border on the sea, seem better adapted to its culture than any other part. In those places, the cocoa-nut, as well as the date, have already been tried, and are found to thrive. In RUPERT'S valley, there is a very fine date tree, which seems to have sprung up by accident, for so little has been done for the improvement of this place, that a solitary date tree is the only one of any kind

kind to be seen in the largest valley of the island; though, from the example of a single tree thriving so well, it is evident that others of the same kind might be easily reared, and that the bottoms of the valleys, in most places, might be covered with groves of the date tree and cocoa nut. Together with these, the other valuable Palms ought to be tried, especially those which would afford the greatest resource to the inhabitants, in the event of any urgent scarcity. One of the most extraordinary Palms in the world grows in MALABAR, and is called by the natives there the CODDA PANNI. The pith of it is made into bread. The branches are so large, that one of them plaited will protect a dozen people from the sun or rain. The natives here know the value of their palm trees, as they subsist for a part of the year on their produce. The codda panni, and another palm of MALABAR, called TODDA PANNI, would be valuable

valuable in ST. HELENA. They are both different from the sago palm, which alone would be a great acquisition.

The Palmyra, or Borassus Flabelliformis, is a very hardy palm, which, along the coasts of MALABAR and COROMANDEL, grows out of the dead sand, and overspreads it in some places with a lofty and open forest; in others, with a close and impenetrable thicket. It affords a hard and very durable timber, and its fruit, though less valuable than the cocoa-nut, is useful for many purposes. This tree, as it requires but little moisture, would probably grow in ST. HELENA. In some parts of INDIA, it is planted for the sole purpose of affording shelter to the more delicate palms which are intermixed with it, such as the Areca, or Betel-nut palm. Though no trial has hitherto been made with the bread fruit, it seems probable that it would succeed in some parts, especially among the interior hills,

hills, where there is always more moisture than in any other place. In similar situations in INDIA it is found to thrive, and is easily reared; though its culture here has never been an object of much attention.

Together with the palms, which, in times of exigency, would afford a substitute for bread, such trees should be introduced as yield the most wholesome and nutritious fruits. Among these, certainly, one of the most valuable is the Jack, or Artocarpus Integrifolia, which bears the largest fruit in the world, and affords a beautiful timber, resembling mahogany. It would probably thrive among the argillaceous hills of the interior. In TANJORE, it grows in a soil somewhat similar, through which we find dispersed many volcanic products. In the salt soils near the sea it does not thrive, but grows luxuriantly on the tops of hills, whence the natives of INDIA say, that it was originally

originally transplanted into the plains. It is a singular circumstance respecting this tree, which is, perhaps, not generally known, that it produces its fruit at the same time from the boughs and stem, and from that part of the trunk which is under ground, where the natives find it upon digging. The fruit, dug up in this way, is reckoned the best, and the time of its maturity is known, from the ground over it cracking and opening. This tree, which is one of the most beautiful and useful in the universe, has not been long known to European Botanists. Its foliage is very close and shady, and the leaf bears some resemblance to the laurel. The fruit is of a most extraordinary size, and contains a wholesome and sweet pulp, interspersed with small kernels called Jack-nuts, of an exquisite flavour and nutritious quality. The natives of some of the hills of INDIA use these kernels as bread.

The Mahwah tree, which grows in the

the sandy desarts of BAHAR and ORISSA, and by supporting the severe droughts of that climate, supplies a seasonable subsistence to the inhabitants, seems well calculated to bear the less parching droughts of ST. HELENA, and ought to be introduced here.

Next to the culture of those trees, which more immediately administer to human wants and convenience, and which would afford a resource against the worst accidents that could arise from the failure of foreign supplies, the principal object should be to introduce such trees and shrubs as will best shelter the surface, and afford an useful timber. From this, the dews and rains might be rendered more frequent and general, the growth of the smaller vegetables promoted, and sufficient supplies of wood obtained for the use of the island itself, and for the accommodation of the ships which touch here.

here. How much this is wanted, will readily appear from the instructions given by the Court of Directors to the Commanders of their ships, in which it is particularly enjoined, that the said Commanders shall bring with them from INDIA a sufficient supply of wood, to avoid distressing the inhabitants of ST. HELENA, where the great scarcity of this article has obliged the Governor and Council, to prohibit its being carried off the island. A spot, which has so much of the Company's care, it would be worthy of their liberality to improve by planting and decorating it with wood; by which means this settlement would be rendered more comfortable and independent in itself, and more essentially useful to the public. Some progress might be made in this plan of improvement, without any great expence, and merely by forwarding in the annual ships from India and England, the seeds and rooted plants of the most

most useful shrubs and trees, and by appointing some proper persons on the spot, to superintend the rising plantations.

It should be an object here to make trial of a great variety of vegetable productions; since, from the experiments that have hitherto been made, it seems impossible to determine before hand what particular plants, either of hot or cold countries, are best suited to this spot; some having succeeded beyond expectation, and some few, where there appeared a greater probability of success, having failed. For example, where we see the apple answer so well, we might expect that the pear and the cherry would succeed; yet it is otherwise, according to the testimony of the inhabitants. No Indian plant seems less calculated for this situation than the Bamboo, which delights in moisture, and grows best on the river banks, and in rich wet grounds at the foot of hills: Yet the bamboo grows exceedingly well at St.

HELENA. We should not easily have supposed that the furze, the bramble, and fir of northern regions would have attained a vigorous and luxuriant growth on the summit of a volcanic rock in the Torrid Zone; yet these plants thrive as well here as in BRITAIN. Of the numerous useful productions, peculiar to warm and cold latitudes, of which no trial has hitherto been made, it seems probable that many will succeed. Why trees and shrubs of the same country, when transplanted hither, should not answer equally well, it may be difficult to explain. But there seems to be something peculiar in the soil and climate, which is more favourable to certain vegetable productions than it is to others of the same region. This peculiarity in the soil and climate, which perhaps operates more considerably from the present bleak and naked state of the grounds, may probably change with the progress of improvement,

provement, when the surface is better sheltered, and consequently more moist and humid, and any sharp ungenial influence of the Trade wind thereby diminished.

The different sorts of palm trees have been mentioned as the productions most likely to answer in the valleys. On the bare rocky heights, it is probable that the jungle shrubs of INDIA would succeed as well as the palms in the lower grounds. Of these shrubs, the Mimosæ would be the most useful. Their growth, besides sheltering and protecting the surface, would afford a supply of fire-wood to the inhabitants; and prevent the necessity of importing coals in a climate, where fire is only wanted for culinary purposes. The culture of forest and timber trees would probably succeed best on the declivities and summits of the interior hills; where, if they could be made to grow, they would, no doubt, have a favourable

influence on the climate, by attracting the clouds, and favouring the descent of rain.

This plan of improvement, which would propose to confine the cultivation of palms to the valleys on the shore; of jungle shrubs to the rocky eminences; and of forest trees to the interior heights and declivities, seems best adapted to the soil and situation of the grounds; and it is conformable to the course which Nature has followed, in cloathing the surface of one of the most ancient lands in the world, the peninsula of INDIA, whose shores are overspread with groves of palms, while deep jungles occupy the higher rocky grounds, and forests surround the interior mountains. And although this land has been inhabited from the remotest antiquity, by a race of civilized people, who have filled it with the stupendous monuments of their religion and industry, they have, however, interfered

fered so little with the order which Nature had chosen for distributing her productions, that its different portions, to this day, are distinguished by the peculiarity of their shrubs and trees; and the palm, the bamboo, the teak, and mimosæ, still occupy their ancient and natural situations.

The Teak, which is one of the most valuable of all the Indian trees, ought likewise to be tried here; and if we may judge from the situations in which it generally grows, we might suppose it would answer. Some of the finest teak trees, that are met with in the ANIMALEE Forests, spring from among fragments of rock, where there appears to be no sort of soil, besides a little red earth or clay, similar to that of ST. HELENA. If to the teak, which is so useful, the Poon, another eastern tree, could be added, it would be a valuable acquisition. It grows straight and to an amazing height,

and is generally used for the masts of ships. Groves of such trees on the heights, besides the influence they would have on the general course of the rains and dews, would constitute a source of interior wealth; and afford accommodation to fleets, which might not otherwise be inclined to touch here.

Of many other Indian trees, which might be recommended as proper to be tried, and likely to succeed, the writer shall only mention one more. The tree which he means is the Banyan, that noblest production of the vegetable kingdom, which springing from a small seed, dropt sometimes in the crevice of a rock, shoots up and spreads into the extent and magnificence of a grove. This tree perhaps would thrive among the rocks, on the sides of the hills. In INDIA, it frequently takes root, and grows in such situations. It very often springs from the walls of a Choultry or Pagoda, and spreading

ing round, includes the whole building within its roots and fibres; in many places, confining and supporting what otherwise would tumble down: For in some ruinous buildings, round which the banyan has spread in this manner, and where the lower parts of the building have been removed by the natives, we still observe the upper parts of the walls entire and unbroken, and suspended in the air among the fibres of the banyan. Surely, no tree could be a greater acquisition to ST. HELENA than one of this description; whose growth would fix and confine the loose basaltic crags, and guard the houses of the inhabitants against the mischief to which they are exposed, from the rocks unexpectedly separating and tumbling down. That the banyan would grow among these loose rocks, seems not unlikely. The Pipel, which resembles it, and grows in similar situations in INDIA, has somehow or other taken

root in RUPERT's Hill, near the Government-house. There is only a single plant of it; but it is healthy, and grows out of the lava. No one could tell how it came there. Where the pipel thrives, the banyan is likely to grow. This last, frequently springs from the fissures of the granite, where there does not appear to be any soil. It very often takes root in the trunks of trees, especially in that of the palmyra. There is an extensive plantation of these trees (palmyras) between ALLAMPARVA and SADRAS, on the coast of COROMANDEL, in which every palmyra composing it, is encompassed with a net-work of the roots of the banyan, from seeds dropt in the crevices of the trunks by the birds. These facts, which are curious in themselves, are mentioned here, only to shew the facility with which the banyan takes root, and the probability there is of introducing it with success at ST. HELENA.

Artificial

Artificial grasses, and a variety of useful herbs, which cannot support the drought of the island in its present naked state, might yet be introduced and cultivated with success, if the valleys and rocky eminences were moderately sheltered with wood. One great advantage of the native jungles of INDIA (many of the small trees and shrubs of which would probably thrive here) is, that they protect the herbage, and thus preserve abundant pasture for the cattle in the dry and hot season; while the open plains, which are unprotected with wood, are converted into sandy wastes, and yield not a blade of grass. These hardy shrubs seem to be the first productions, with which Nature, in a burning climate, overspreads rocky and sandy grounds; and, while they afford shelter to the tender herbs which spring up under their shade, they probably prepare the soil for the reception and growth of forest and fruit trees. It would be advisable

visable to adopt this course, in improving the most rocky and barren parts, by planting them with these jungle shrubs of INDIA, which by preserving the surface cool and humid, would favour the growth of herbs and grasses, assist in correcting the natural dryness of the climate, and prove, in a variety of ways, useful to the settlement.

But in order to ensure complete success to these improvements, and to obviate the ill effects of long continued droughts, while the plantations are young and the surface unsheltered, it would be necessary to obtain an artificial command of water. This might be effected by digging tanks and reservoirs, which, from the nature of the grounds, might be so constructed, as to afford an easy and ready supply to most parts of the island. Many of them might be filled and kept up by the springs of the interior hills; and they would

would be still further augmented by occasional rain. In a situation where water is so much wanted, and where its artificial distribution would yield such benefit, we are surprized to see so much of it running to waste. The effect of the partial allotments of Nature, may frequently be compensated by human industry and care. Even in this dry climate, where the rains are not only deficient in quantity, but partial in their extent, and uncertain in their periods of access, still the quantity that actually falls down from the clouds upon the hills, and which oozing through the beds of rock and clay, breaks out in numerous springs at their bottoms and on their declivities, might, with proper management and distribution, be sufficient to moisten and fertilize a great part of the surface. Tanks and reservoirs dug to retain and preserve it, would, as has been observed, receive still further additions from the rains, and would prove a great

great resource to vegetation during the prevalence of severe droughts; and this seems the only way in which cultivation on such a spot as this can, at the beginning, be carried on without any risk of failure or miscarriage. The expence and labour of constructing a sufficient number of tanks for this purpose could not be very considerable, and would be far less than the natives of some countries are obliged to undergo, in order to secure themselves from famine. If the prospect of expence or difficulty could have deterred from useful undertakings like this, no Hindoo legislator would ever have entertained the arduous project of introducing the culture of rice into the CARNATIC, and of instructing the inhabitants of one of the most parched and fervid climates in the world, to depend for their subsistence on the production of a delicate grain, which cannot be made to grow out of water. Yet, by the construction of immense

mense and numerous tanks and reservoirs, which collect and preserve the partial bounties of heaven, and by the erection of some stupendous works, which controul the course of rivers and extend the distribution of their waters, the plains of the CARNATIC, which for six months together are sometimes not visited with rain, and for a long period not refreshed with any dews, have been made to yield luxuriant harvests of a grain purely aquatic; and from being in a state of nature, mere rock and sand, overspread with jungle, have, through the patient industry of the HINDOOS, become the garden and granary of INDIA. It may be doubted, whether the inhabitants of EUROPE, with all their boasts of civilization, and proud claims of superiority over the rest of mankind, would, in circumstances so arduous and difficult, have the courage to undertake, and the patience to execute, such a stupendous monument of public beneficence.

If examples were needed, or could avail to encourage exertion, the writer knows of none stronger or more applicable than that of the CARNATIC, which shews how a parched and rocky soil may be improved, and a great scheme of watery cultivation carried on, in opposition to the natural dryness of the climate. But that elaborate process and assiduous care required in the culture of an aquatic plant, are not wanted for the purpose of carrying on any improvements of which ST. HELENA is capable. Trees and shrubs, transplanted to its hills and valleys, would only for a time require an occasional supply of water. In a state of greater strength and maturity, they would probably attract a sufficiency of dew and rain to support their verdure, and promote their farther growth.

By the effect of such improvements, the climate here might probably undergo some

some little alteration, in becoming moister than it is at present; and the planting of the bare rocky summits with such trees and shrubs as can be made to grow upon them, is the only means which we can employ to favour the descent of dews and rains. That such plantations, when grown to some maturity, would attract a sufficiency of moisture to preserve their verdure and promote their farther growth, seems highly probable, from what happens among the interior hills, where there are groves of flourishing trees and shrubs, and where, as it has been already mentioned, light rains frequently fall, while not a drop reaches the bare rocks on the shore, notwithstanding their great elevation. But although the natural dryness of the climate might in this way be considerably relieved, and the island rendered more valuable, and far more commodious and agreeable to its inhabitants, it is not to be expected that any improvements which

which can be made on the surface of so small a spot, can effect any material change in the course of the seasons, in which it is placed. Extensive tracts of land, from the effect of cultivation, from the disposition of their woods, and the draining of their marshes, may undergo considerable changes of temperature and climate: But a petty isle, removed from the influence of every other land, and lying in an immense ocean, whose climate and temperature are regulated by the invariable course of the Trade wind, can have no great influence on the seasons, and on the peculiar state of the atmosphere which prevails in those latitudes. Yet it is reasonable to believe, if it were covered with wood, and otherwise cultivated, that it would be more frequently visited with showers than it is at present; and this supposition is conformable to what actually takes place in its naked and wooded summits. But that the rains here can ever become

become very abundant, or regularly periodic, as in most other tropical countries, is not at all probable. In spite of what human art and industry can effect, ST. HELENA must always remain a dry climate, unless some great revolution of nature should raise other lands in its neighbourhood, from the bottom of the ocean; and by controuling the general current of the Trade wind, give rise to periodic monsoons, variable winds, or alternate land and sea breezes, in the centre of the Æthiopic. From these ordinary sources of rain in warm countries, the particular situation of ST. HELENA wholly excludes it; and being placed in circumstances where the principal causes which produce the general and occasional rains of tropical countries do not operate at all, and where the sources of its own peculiar rains only operate feebly and at uncertain intervals, the only alteration that is likely to happen is, that a wooded

and cultivated surface will naturally attract and retain more rain and humidity than a naked rock, which is almost continually heated above the temperature of the surrounding sea.

From the peculiar nature of the climate here, and the course of the winds, there is no reason to apprehend, that the salubrity of the place would be affected by the improvements which have been recommended. It is true, that some of the most unhealthy of the tropical islands, especially those in the Asiatic seas, are observed to be the most exuberant in their vegetable productions. But the malignity of their climate does not arise from their verdure and luxuriance; it is occasioned by the close and sultry heats, dead calms, and excessive rains, to which they are subject. From these, and the noxious effects of them, ST. HELENA is wholly exempted. It does not owe its salubrity to its nakedness, but to the steady influence of

of the Trade wind, which would equally purify and refresh its hills and valleys, if its whole surface were covered with wood, and those dark and rugged volcanic cliffs, with their deep chasms and overhanging crags, were decorated with verdure and luxuriance to the water's edge. And while this steady and salubrious gale is continually blowing over it, no hurtful exhalations are likely to arise from the greater humidity of its wooded surface.

When we consider how much this island might be improved and decorated by the addition of wood, it is difficult not to anticipate the striking and beautiful effects that would arise from it. There is here every variety and wildness of surface, which can result from the most fantastic configuration of rocks and hills; and this rude and natural scenery wants only the shade and embellishment of wood, to make the whole one of the most delightful and romantic spots in the world;

and which, instead of disgusting the eye with a prospect so dismal and dreary under a benign and genial sky, would discover, in the remote solitude of the ocean, an object the most grateful and refreshing to those that approached it.

CHAP. V.

OF THE INHABITANTS, AND THE INTERIOR CIRCUMSTANCES OF THE ISLAND.

THE situation of a little colony, embosomed in the recesses of a rocky island, and separated by an immense ocean from the troubles and calamities of the surrounding world, we should willingly figure to ourselves as the retreat of happiness; which those who sought for it in retirement, might expect to find in the valleys of ST. HELENA. Here the inhabitants, in the enjoyment of ease and security, have only to attend to the care of their families and gardens. They are exempted from many of those sources of strife and contention which vex and disquiet more extended communities of mankind; and, under the delightful climate where they dwell, they are blessed with

some of the best things which this world can give :—with long life ; exemption from disease ; a healthful offspring ; and beautiful women. Yet it must be confessed, with whatever sorrow, that the happiness and content, which some consider as attainable in a state of retirement from the great and busy world, are only delusive phantoms, feigned by sages and poets, in the fond hope of finding somewhere, what hitherto has not been found upon earth. Few of the inhabitants of ST. HELENA seem to live satisfied with their present condition, or without a longing desire to quit it ; and the wish of " going " home," by which is meant going to England, is fondly and familiarly expressed, as well by the native inhabitants as by the recent settlers. They appear to consider their situation as a state of exile, which few of them have any hopes of getting away from : For those in the service of the East India Company have but very

very moderate appointments; and the others, very little opportunity of getting wealth. That the inhabitants, whom their residence and occupation here have separated from their kindred and friends, should wish to return to them, is natural enough: But it seems more unaccountable in the natives, who have never been out of the island, to express so strong a desire of "going home."

Of a little society, thus shut up in an irksome solitude, and having so few opportunities of intercourse with the rest of mankind, it would be pleasant to think, that they passed their days agreeably together; and that envy and discord had never found their way to those sequestered retreats, where fancy would gladly paint the abode of simplicity and innocence. But whether from the effects of family jealousies, which are apt to arise in such confined situations, or from those little tales of scandal and whispers of detraction

which are so frequently heard in small communities, or from whatever other cause, it is to be regretted, that the peace and social intercourse of this settlement have been sometimes disturbed. An acute and well-informed traveller, who visited this place, has remarked, " While " ships are riding in the roads, and the " inhabitants busy in supplying their " wants, or eager to entertain their guests, " their minds, occupied also with foreign " events, of which the strangers bring ac- " counts to them, that any dissentions " subsisting among individuals in the " place are suspended for the time; but " that, when the shipping season is over, " and the settlement void of business, as " well as of topics of discussion on dis- " tant incidents, intestine divisions some- " times revive; and that it is an object " of government to divert their minds " from their private feuds, by engaging " them in military exercises, or even in " domestic

" domestic amusements or dramatic en-
" tertainments."

To persons coming from the gay and cheerful scenes of the EAST INDIES, where society is enlivened by the utmost ease and freedom of intercourse, and by the most unbounded hospitality, the manner in which the inhabitants of ST. HELENA pass their time, seems dull and irksome. With so few objects around them to relieve and diversify attention, it seems at first surprising, that they should not more generally seek for entertainment in the society of each other. To strangers, they appear to associate very little together: and, except during the shipping season, when they quit their country residences and live in JAMES TOWN, they pass the remainder of the year apart from each other at their garden houses, between which, if the tenants were even more disposed to associate, the intervention of crags, precipices, and chasms, would preclude

clude the opportunity of easy and frequent intercourse. This quiet and secluded life they have probably chosen, as the most suitable to their circumstances, and to the care of their families; and while it preserves their health, and contributes to their longevity, they have the less cause to envy the conviviality of their INDIAN brethren, which, however it may secure the enjoyment of the present hour, has not been found favourable to health and length of days.

It is customary for the passengers of the homeward-bound Indiamen, during their stay here, to live at the houses of the inhabitants; and, excepting the Governor and Deputy Governor, and a few others, who entertain strangers with unbought hospitality, all the inhabitants are ready to accommodate them with board and lodging; the terms of which are generally complained of as being extravagantly high. But it should be remembered,

bered, that most articles of provision here are obtained with difficulty; that the inhabitants have but few opportunities of disposing of what little superfluous stock they are possessed of, or of adding to their means of replacing it; and that those whom they entertain can in general afford to pay well for their accommodation. It seems, therefore, but reasonable, that wealthy strangers, who are treated with the best fare which the place affords, and certainly with much kindness and attention, should contribute adequately to the comfort of their hosts, and the benefit of the settlement.

In a situation where the inhabitants, during the greatest part of their time, are cut off from all intercourse with the world, and left to look upon the naked expanse of the ocean, it will not easily be imagined, what lively interest is excited by the appearance of any ship. The arrival of the homeward-bound Indiamen is the greatest

greatest event of the year. It fills the whole settlement with alacrity and joy. They quit their gardens, flock to JAMES TOWN, open their houses for the accommodation of the passengers, and entertain them with plays, dances, and concerts. These gay assemblies are enlivened by the presence of many agreeable and handsome young women, natives of the place, who, amid the general festivity, seem to feel a peculiar interest in what is going forward; probably, not without some throbbing expectations of being taken from a scene, where they are weary with constantly contemplating the same objects. The appearance of so much loveliness and beauty, cast away in a lonesome situation like this, has sometimes raised stronger emotions than those of mere sympathy, in the bosoms of their guests; and the native women of St. HELENA have adorned domestic life, and graced the politest circles in ENGLAND and IN-

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DIA. To such fortunate and pleasing occurrences, it may somewhat contribute, that many of the strangers, having escaped with impaired constitutions from the oppression and sultriness of an INDIAN atmosphere, experience a sudden renovation of health and spirits, under this mild and salubrious climate. Into minds thus exhilarated, from the effects of returning health, love easily finds an entrance.

But whether the expectations of the ladies are often favoured in this way, or not, the pleasure and benefit derived by convalescents from the climate tend greatly to enhance the enjoyment of their short stay here: and as the people with whom they live, are of a courteous and obliging disposition, and readily take the trouble of shewing whatever is worth seeing in the island, it may easily be supposed, that strangers will pass their time very agreeably. We love so much better to be pleased than to be instructed, that the

the qualities which inspire good humour and complacency, easily compensate the want of information and intelligence. The conversation of the natives is that of a plain unaffected people, chiefly conversant about their own concerns. A life of seclusion, passed upon a spot where one only sees the sky and the ocean, is not likely to make men philosophers or citizens of theworld. Where the mind is limited in its views to the scenery and occupations of a petty isle, some of its conceptions will naturally betray the confined circumstances in which they arise. An observation made by a ST. HELENA lady, " that the arrival of the " Indiamen in ENGLAND must, she sup- " posed, make LONDON very gay," however it may excite a smile in this country, was perfectly natural, in the situation in which it was made: For it must be remembered, that the arrival of the Indiamen makes the season of festivity at ST. HE-

LENA;

LENA; and is an event interesting to all, and to females in particular, big with expectation. As the writer of this was one day walking with a gentleman, who had never been out of the island, they stopped to look at a small spot of ground, where the vegetation was very exuberant, when the gentleman, lifting up his hands, cried out with great fervour, "If ST. HELENA "were all as fruitful as this place, it "would be the noblest and richest coun-"try in the world." The writer spoke of the wide and fertile regions of ASIA and EUROPE, stretching like the ocean around them to immense distances, and of the comparatively small size of this island; but he did not succeed in convincing the gentleman, or at least in giving him any clear and impressive ideas of any country that could be finer than his own, if it were all cultivated. So true it is, that our ideas of space depend upon experience. Yet some metaphysicians tell us, that

that these ideas may be acquired in a dungeon; so a man in a dungeon, or elsewhere, may reason himself into a temporary belief of the non-existence of matter. But the clear and convincing notions of things, which regulate our judgment and actions, are the fruits of experience. The above gentleman, who had lived more than threescore years on an island only twenty-eight miles round, and having only a few inconsiderable spots that are fertile, could form no clear conception of any thing richer and finer in the Universe than ST. HELENA would be, if, to use his own phrase, "it were all "green to the water's edge." We may smile at this simplicity; but if the familiar images and descriptions of HOMER and VIRGIL have taken a peculiar cast from the appearances of the countries where they lived, and from the circumstances of the times when they wrote, it cannot appear extraordinary, that the natives of a remote

remote insulated rock, should have their ideas fashioned after the model of their own little world.

But, however simple they are in some of their notions, respecting other countries, they are perfectly well acquainted with their own affairs; and he, who, in dealing with them, expects to find the simplicity of Shepherds or Savages, will be disappointed. In the disposal of the few articles, which their scanty means permit them to sell or barter, they are sufficiently skilful. In the little artifices of traffic, some of them speculate on very remote chances, and distant probabilities. One of them related, with apparent triumph and satisfaction, that if at any time he purchased, or was made a present of a main-topmast, main-yard, or any other essential appendage of a ship, which he could turn to future account, how he kept it in store with a provident avarice, till some unfortunate

vessel, which had suffered in the storms of the southern latitudes, happened to arrive, in absolute want of these articles, when he could easily obtain his own price for them. Extensive dealers in monopoly may smile at this petty species of forestalling: But the principle is the same, whether exercised on a large or small scale; and whether the unfortunate object of it, is a seaman in want of a maintopmast, or a community in want of bread.

It cannot offend prejudice, or surprise credulity to be told, that the natives of ST. HELENA are like the rest of the human race; and actuated, at times, by the same selfish passions. A tale of incredible manners, however it might amuse the ignorant and credulous, would not obtain belief; and it is not intended here, to paint a fabulous race of Beings, differing as widely from the rest of mankind, as the singular aspect of those rocks which

which they live among, differs from the appearances of other countries. It may serve to repress envy, and to abate our partiality for the imaginary virtues of seclusion, to know, that those whom their local situation has removed the farthest from evil communication, are not however exempted from the specks and blemishes of other mortals.

The exact number of the inhabitant it is difficult for a stranger to ascertain. Some years ago, they were said to amount to upwards of 2,000, of whom 500 were soldiers, and 600 blacks. There are about seventy garden-houses, and there are very few families who have not garden-houses, in which they generally reside from October till April or May, which is the summer season; and during this period, JAMES'S VALLEY is deserted. It is said then to be sometimes hot and disagreeable. JAMES TOWN, which stands in

this valley, facing the northern bay where the ships lye at anchor, consists of one street, neat enough, but irregularly built. It is well paved with small stones, which have been smoothed and rounded by the sea. JAMES's VALLEY, though one of the widest, is yet so narrow, that the rows of houses on each side of the street, and which run parallel with the hills, are so close to them, that fragments of rock, loosened by the rain, and tumbling from the declivities, have passed through their roofs; and, on some occasions, killed the inhabitants.

The garden-houses are situated on different parts of the island, especially on the south side, towards SANDY BAY, which is full of the wildest scenery imaginable. The situation of these houses is very striking and curious, being placed here and there on gentle slopes, or little platforms, which jut out at different heights from the sides of the hills, and surrounded

surrounded with small clumps of trees and shrubs. From DIANA'S PEAK, we observe them on each hand, stuck up in corners like bird-cages, and hanging in elevations so different, that the distance in height between the highest and lowest, cannot be less than two thousand feet. The small tufts of trees and evergreens with which they are decorated, are heightened and enlivened in their effects by the rude and desolate scenery of the intermediate hills and rocks. These houses are only calculated for the abode of sober tenants; and it is fortunate for the inhabitants, that there is so little drinking and conviviality among them, as jolly parties might be attended with mischievous consequences, where the dwellings are surrounded with such tremendous precipices and chasms.

But in these romantic and salubrious abodes, they enjoy what is better and more desirable than conviviality, the so-

laces of domestic life, and the happiness of rearing large and promising families. What happens in this fine climate, may be easily supposed,—that females are prolific; their labours easy; and their offspring healthful. But it deserves particular notice, that the number of females born here, is said to exceed that of males, which also happens at the CAPE OF GOOD HOPE; and, if the writer is not greatly mistaken, in the EAST INDIES. The number of males born in BRITAIN is known to exceed that of females; and this is probably the case in all northern countries. Now if it be really true, as there seems reason to suspect, that there is a greater number of females born within the tropics, and of males towards the polar regions, the fact is well worth the attention of philosophers, as the illustration of it might enlarge our views of the order and design of Nature, in discovering why she thus varies, though by means

utterly

utterly mysterious and unknown to us, the proportion of male and female births in opposite circumstances of climate, for the purpose of perpetuating the race of mankind?

The interior resources and comforts of the island, as far as they regard the means of subsistence, are but scanty and limited. Yet the little farms and gardens of the inhabitants, supply them with some excellent fruits, pot-herbs, and farinaceous roots, sufficient, in years that are not unfavourable, for their own consumption, and for affording a seasonable refreshment to the crews of vessels that anchor in the roads. There is, however, no bread-corn; and the grounds seem not at all adapted to the culture of farinaceous grains. A little barley, indeed, has been raised, and it grows well; but it is destroyed by rats, which swarm here in incredible numbers, as do caterpillars;

and these, with the insect that attacks the peach, are the greatest pests which the inhabitants have to contend with in their gardening and agriculture. The rats are supposed to have been brought in our ships, and the peach insect and caterpillars seem to have been imported on some exotic plants. But in whatever way they have been brought here, they have multiplied amazingly, to the great annoyance of the inhabitants, and the detriment and obstruction of agriculture. It is curious that some creatures, when brought into a climate that is new to them, should thus spread and increase to a degree beyond what they did in the countries from which they were imported. A very remarkable instance of this lately occurred in INDIA, on the coast of COROMANDEL, where, in the year 1796, a species of the cochineal insect, called the SYLVESTER, was introduced from the BRASILS. It was considered as a great acquisition,

acquisition, and much care was taken of it at first. It would feed on nothing but the common native Opuntia, which is generally used for hedges all over the country. In a short time, the insect destroyed all the Opuntias in the CARNATIC; and so complete was the havock which this voracious creature made, that the remaining stumps of the hedges on which it had settled, looked as if they had been consumed by fire. Nor was this all; for when our army was in MYSORE, in the year 1799, the natives mentioned what appeared to them very astonishing and unaccountable, that all their Opuntias had, about the same period, been entirely consumed. In this manner, a small insect, introduced from the BRASILS for the laudable purpose of establishing a cochineal manufacture, wasted and destroyed, in the short period of three years, almost all the Opuntias of the southern peninsula of INDIA.

The

The Yams and Potatoes of ST. HELENA are excellent, and sufficiently plentiful for the use of the inhabitants, and for the supply of ships that touch here. When the store ships do not arrive in time, and flour becomes scarce, the yams and potatoes are used instead of bread. There are also Plantains and Bananas; but these do not seem to thrive so well. Some good coffee has been raised, and the climate seems well adapted to the culture of this valuable plant. The apples are excellent, and rather plentiful; and the peaches, from the few trees that have escaped the ravages of the insect, are of a most exquisite flavour. Fruits do not come to maturity on the interior heights, which is occasioned by the bleakness of the Trade wind. But there is abundance of sheltered situations; and this natural shelter might be improved by plantations of wood. There are very good cabbages, and most of the other garden

garden vegetables of EUROPE, though in small quantities. But there is great plenty of purslane, wild celery, and water cresses, which may afford immediate relief and benefit to sickly and scorbutic crews.

The best and most plentiful article of provision is beef, which is very fat, juicy, and delicious. But this, which is their most valuable and substantial resource, is liable to failure, from the extreme droughts of the climate; and some years ago, more than two thousand head of horned cattle perished through want of food and water. The goats are very numerous, and there is good kid, mutton, poultry, and some game. Partridges, pheasants, pigeons, and other birds have been introduced. The rice bird of the EAST INDIES (LOXIA ORYZIVORA) lives and multiplies here; though we might suppose, that a parched and rocky surface was ill adapted to a bird, which, in its wild and native state in INDIA, lives in fields of rice which

which are inundated. Some of the smaller birds have been introduced; and the climate is well-calculated for this class of creatures, if there were a sufficiency of food for them. The partridges are pretty numerous, and several coveys of them are seen among the bare rocky hills, where it does not appear that there is any thing for them to eat. Here too we meet with some beautiful ring pheasants and rabbits, which, together with Guinea hens, were introduced by the Governor. There is a small blue dove and red-legged partridge, which Mr. FORSTER supposes, (from what authority the writer knows not) to have been found in the island when it was discovered. This, however, is contrary to the accounts which the writer received. There is a small but hardy breed of horses, originally brought from the CAPE. They are very useful, and well adapted to the nature of the roads, which are steep, narrow, and difficult, cut in traverses up

up the hills, and enclosed on the side of the declivity by a wall of stones, without which they would be very dangerous. In some places, we pass under masses of loose impending rock, which look very aweful and threatening.

There is no doubt but that the live stock of the island might be considerably augmented, and that some kinds of useful animals might be introduced. The principal difficulty would be, to procure a certain and sufficient supply of food for them at all seasons, in a situation where severe and frequent droughts are so unfavourable to the growth of plants, and especially of the smaller vegetables. From the effect of culture and plantation, the climate may probably become more humid; or it may undergo some spontaneous change, and which, if we can credit some traditionary reports, has partly happened already. According to the testimony of some travellers too, who visited this

this place many years ago, it appears that the inhabitants, born on the island and grown up to a good old age, had never once heard thunder, or perceived lightning. These phænomena now occur once in ten, twelve, or fourteen years. But whatever effect this change may have on the climate, and whether thunder, which is heard so rarely now, and which formerly seems to have been heard much seldomer, is likely to increase the rains by becoming more frequent, there is something highly interesting and curious in contemplating the endless variety and revolutions of Nature, which equally affect the fleeting meteors of the air, and the more ponderous and unwieldy elements. The AURORA BOREALIS, for instance, which was formerly seen every autumn in ENGLAND, after having for several years left our northern sky, has begun lately to appear again, though in a very slight degree. It is affirmed by some of the old-

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est inhabitants of the north of SCOTLAND, who derive their knowledge of the fact from their fathers and grand-fathers, who were eye-witnesses of it, that this meteor was never seen in their hemisphere, till towards the close of the seventeenth century; from which we may infer, that it appeared then after so long an interval, that all memory of it had been lost. That lightning, which in its nature is probably allied to the Aurora Borealis, should unexpectedly burst forth from an atmosphere where it had not been seen for so long a period, that its former appearance may have been indistinctly remembered or entirely forgotten, is not therefore a thing either incredible in itself, or inconsistent with the course and analogy of Nature. Mr. FORSTER, who received accounts corresponding with what is here stated, when he visited ST. HELENA many years ago, has endeavoured to assign a reason why thunder and lightning

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do not occur here. He observes, that all the hills and highest rocks are a kind of lava or vitrified slags, and that, like all vitrescent bodies, they must be electric *per se*, or non-conductors; that, consequently, the electricity of the atmosphere is not conducted by them, and therefore causes no explosion. If this be the case, the decomposition of the surface, by the more extended growth of plants, or consequent increase of dews and showers, may have made this island somewhat more of an electric conductor than it seems to have been in the days of those old inhabitants, with whom Mr. FORSTER had an opportunity of conversing.

It is a matter of great advantage and convenience to those who live on a spot, where the interior means of subsistence are so scanty in themselves, and rendered yet more precarious from the parching droughts of the climate, that the surrounding ocean abounds in esculent fish, seven-

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ty different species of which, including turtle, are caught upon its coast. It seems curious to find the sea stored with such a multitude and variety of tenants, on the shore of a remote and desolate isle, which appears itself to have been untenanted by any living creature, excepting some vagrant birds of the ocean. Yet the fact is neither extraordinary nor unaccountable: Fishes being free and unconfined by the nature of the element in which they live, easily roam from one part of the sea to another; and the vicissitudes of climate which confine many land animals to particular latitudes, or compel others to migrate with the seasons, are hardly felt in the recesses of the ocean, where the temperature for many degrees of longitude and latitude varies so little. It cannot therefore appear surprising, that while there are very few kinds of quadrupeds, amphibious reptiles, or insects, in many islands remote from continents, the neigh-

bouring sea is yet stored with abundanc and variety of fish, and that fishes of the same species are found in situations so remote from each other. Of the seventy different kinds, caught near ST. HELENA, several are common to cold latitudes; and whales are seen playing about the island in such numbers, that it is supposed the Southern whale fishery might be carried on here with great advantage, as it certainly might with safety and without difficulty, in seas which are never obstructed with ice, nor ruffled with hurricanes. This circumstance may, in future, constitute a source of wealth and trade to the island itself. The tides here seldom rise above three feet and a half; but there is sometimes a tremendous surge breaking on the shore, which formerly occasioned accidents to boats going out or landing, till a wharf was erected, which makes the communication between the sea and land perfectly secure and easy.

Blacks,

Blacks, or rather persons of different shades of that colour, who discover in the variety of their complexions and features a strange and motley mixture of races, are employed in cultivating the country, in fishing, and in the capacity of household servants. These people, who are either descended from the blacks brought here by the first EUROPEAN settlers, or who have been since imported from the WEST INDIES, GUINEA, MADAGASCAR, or the CAPE OF GOOD HOPE, were, till within these few years, in a state of slavery. But the practice of slavery here has been long since restrained in its exercise, and mitigated in its effects, by some humane and salutary regulations; and it has very lately, to the honour of the Directors of the East India Company, been wholly abolished. The release of 600 blacks from a state of thraldom, can subtract but little from the guilt of EUROPE, or the wrongs of AFRICA: Yet it is consolatory to re-

cord even a single act of justice and mercy to an inconsiderable portion of this unhappy race, whom the enormous wickedness of EUROPEANS has dragged from their homes, and condemned to slavery; not for any wrong they ever did us, or for any good we ever mean to do them; but because our power has unhappily enabled us to make their weakness and sufferings subservient to our avarice.

The emancipation of the blacks was an act of humanity the more desirable here, and the more naturally to be expected from the East India Company, as this was the only part of their widely-extended territories, where the practice of slavery was ever tolerated. It was introduced by the first EUROPEAN settlers; for it has been observed, that whites will seldom work in a warm climate when they can get slaves to labour for them. The blacks here remained long under the absolute and uncontrouled dominion of their masters, till com-

complaints of the oppression and abuses that this gave rise to, induced the Court of Directors to place them under the immediate protection of the magistracy, and to put a stop to all further importation of slaves. Several regulations were at the same time enacted, to render their situation more easy and comfortable, by which they seem to have been encouraged to marry and propagate: For it is a fact, that before these regulations were established, there was an annual loss of about ten in a hundred. But since the blacks have been placed under the immediate protection of the magistracy, and all further importation of them prohibited, they have increased. This fact is noticed by Sir GEORGE STAUNTON, in his short account of this place.

Still, however, it may be doubted, whether any partial mitigation of an evil, which in its nature so thoroughly debases the human mind as slavery, and which

utterly destroys the only vigorous and independent principle of action, can ever render the unhappy beings placed in this condition, either fully comfortable in themselves, or more useful to their owners. Where men are retained against their will in a state of bondage; and only impelled to labour by the dread and example of punishment, it is difficult to relax their fetters, or in the least to diminish the authority of their owners, without exciting among them strong tendencies to disobedience and disorder. Drunkenness, irregularity, and idleness, will be the natural consequences among those who feel themselves exempted from the arbitrary dominion of their masters, without being at the same time released from that condition, which has not in itself any comforting hope, nor any animating incentive to industry. This seemed to be the case at St. Helena, as was evident from the constant complaints of the owners against their

their slaves; and from what the writer saw of the idle and disorderly state of the slaves themselves. In this situation of things, it was certainly better to abolish slavery altogether, that those who were no longer impelled to the performance of duty through fear, might be drawn to it by self-interest, and the prospect of reward.

This island, which is so valuable to the East India Company, as a commodious station for the refreshment of their fleets, derives yet an additional importance from the cession of the CAPE OF GOOD HOPE, and from there being no other station at which our Indiamen can conveniently touch, for a supply of water and fresh provisions. The CAPE, which is situated in a healthy and prolific climate, and commands a vast tract of country, capable of yielding all the necessaries and conveniences of life, with most of which it already

abounds, is unquestionably far more valuable with respect to its various and independent resources, than a small barren island, which produces no corn and very little wood. Yet, as a station for our Indiamen, the CAPE has many inconveniences, arising from the position of its lands, and the general course of the winds which prevail in these latitudes. To make it a place of importance to this country, whether as a barrier to our East India territories, or as a port from which to direct our attacks against the colonial possessions of other powers, great sums must necessarily be expended in its improvement, and in the maintenance of large and adequate garrisons. As this could only have been done at an expence disproportioned to any real advantage we could at last derive from its possession, it was better to abandon this object altogether. In our hands, its principal advantage would have been of a negative kind, by keeping

others out of it; and particularly, by excluding an ambitious and enterprizing people, who from such a port may harrass our trade, and at some future period equip armaments against our eastern dominions.

St. Helena, which may be maintained at an expense comparatively so inconsiderable, is in its nature more compact and defensible; being only in a few points accessible to the assaults of an enemy, and those points, already fortified, and capable of being made impregnable by some additional works. An enemy could not easily land here by surprise, for there are signals so placed all over the island, as to give instant notice of the approach of vessels to any part of the coast. Here too there are means of annoying an enemy, which might prove more potent and destructive in their effects than fire arms: For a few unarmed individuals, placed on the tops of the hills, might, by rolling loose fragments

ments of rock down the steep declivities, completely overwhelm the invaders in any of those deep and narrow valleys where only they could land; and from which they must, with whatever difficulty, climb to the summits, before they could close with their opponents, or get possession of the island. Of these offensive weapons, ST. HELENA, however deficient in its other resources, affords an exuberant supply on the top of every hill, and on the face of every declivity, of all sizes and dimensions; many of them, at least, as large as that which TURNUS hurled against his foe, and abundance that might be more commodiously wielded by mortals of modern days.

"Qualia nunc hominum producit corpora tellus."

That this may not seem wholly chimerical, it may be proper to mention here that this mode of defence has been often practised

practised with success in INDIA, where there are many forts situated on the summits of rocks and hills. In the memorable campaign of the MARQUIS CORNWALLIS, conducted with so much judgment and success by that gallant and virtuous nobleman, the only check which our arms sustained was at KISTNAGUERRY, which is a fortress erected on the summit of a steep and lofty rock; and our miscarriage here was occasioned by the besieged rolling down huge stones and fragments of rock upon the assailants.

As a station for our homeward-bound Indiamen, ST. HELENA has advantages superior to the CAPE. Its position is sufficiently convenient; and being exempted from the storms and tempestuous weather of the southern promontory of AFRICA, it far exceeds the CAPE in the serenity of its climate, and the security of its roads: Yet it has some inconveniences; it can only be approached in the track of the Trade

Trade wind; and the approach to it requires some skill and management. Vessels, therefore, coming from the quarter opposite to that from which the Trade-wind blows, are under the necessity of making a prodigious circuit. It will be obvious too, that ships cannot lye at anchor on its windward side, though the anchorage is safe and secure, at all seasons, on the leeward coast. Besides, as it is so inconsiderable a speck on the surface of the great ocean where it lyes, and in which there are no other land-marks to guide the mariner, it may easily be missed by vessels which do not keep exactly in the windward track of it; and if they once pass it but a little, the difficulty of beating up to windward is very great, and they are obliged to steer to a vast distance, in order to get into the longitudes whence the Trade-wind blows continually towards it. It is related of a British commander, who had missed it in this

this way, that, after some endeavours to discover it, he abandoned the search, in the full persuasion that it must have been recently swallowed up by the waves. We may smile at this; and yet a seaman, acquainted with ST. HELENA, who should in this way miss it, might more naturally entertain such an apprehension about it, than about almost any other land; as its loose and crumbling composition, its impending and disjointed cliffs, and its hollow and cavernous base, give it altogether an appearance among the waves so tottering and unstable. JAMES's BAY on the northward, where ships anchor opposite to JAMES TOWN, is said to have the inconvenience of shelving very abruptly, at a short distance from the shore. SANDY BAY, which is in itself so much finer, and more capacious, and so strikingly embosomed in the wildest and most stupendous scenery, is rendered useless as a

place

place of anchorage, by being situated too far to windward.

These natural inconveniences of the island would be fully compensated to the vessels and fleets that touch here, if the place in itself afforded more ample means of supplying their wants. That its interior conveniences and resources, with respect to shipping, might be considerably augmented, and that it might be altogether much improved and beautified, there can be no doubt. This indeed is evident, from what has been done already; by which the place has become a more commodious and comfortable abode than it was before, to those who either dwell or sojourn in it. But with whatever further conveniences it may be enriched, or with whatever improvements its surface may be decorated, its great advantages are dependent on sources which are never likely to fail, as they are derived from the order of the elements and seasons.

And

And if this cheerless and gloomy island were in itself utterly destitute of every means of subsistence to man, bird, or beast; if no tree, shrub, or trace of verdure should ever soften that aspect of desolation and horror which heightens the dreariness of its solitude, and seems to cast an air of sadness on its cheerful and enlivening climate, it would still afford some valuable comforts and advantages to seafaring strangers; while vessels, at all seasons, ride with security in its roads; while its shores swarm with multitudes of fish; while its hills abound with fountains of pure water, and its atmosphere is refreshed by a breeze of perpetual salubrity.

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